

LOCAL FLOOD PROTECTION LOCK HAVEN, PENNSYLVANIA

PHASE I
ADVANCED ENGINEERING
AND DESIGN STUDIES

~~DRAFT~~ FINAL

BY: ERDMAN, ANTHONY, ASSOCIATES
CONSULTING ENGINEERS & PLANNERS
CAMP HILL, PENNSYLVANIA

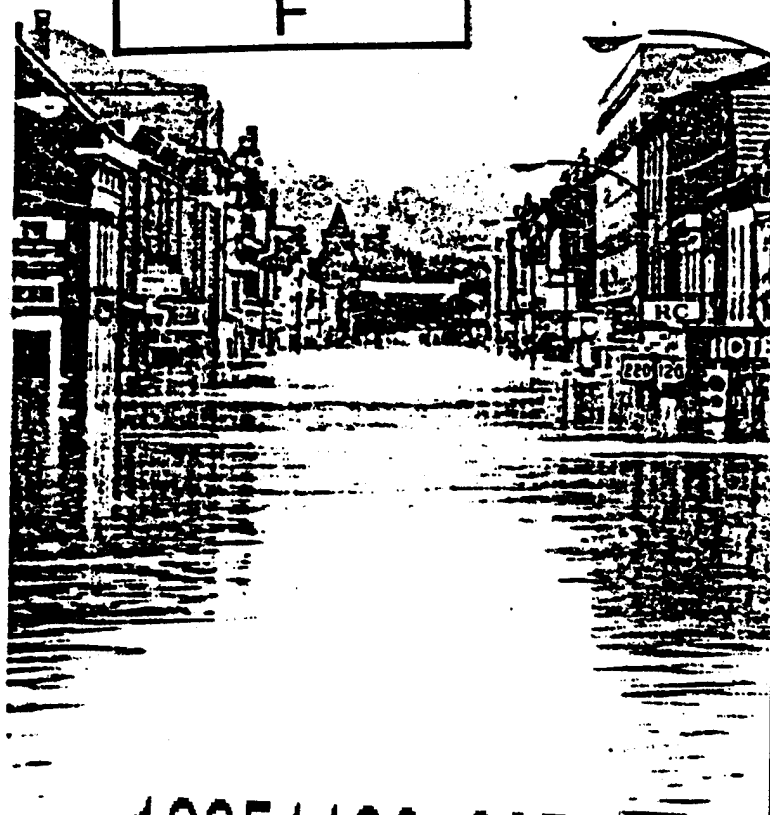
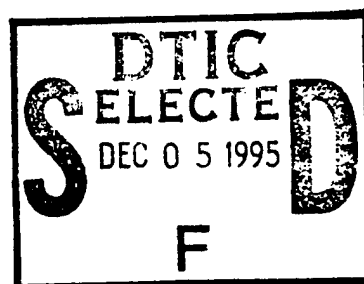
MAY 1979

FOR: DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT
CORPS OF ENGINEERS

CULTURAL AND ARCHEOLOGICAL
RESOURCES RECONNAISSANCE

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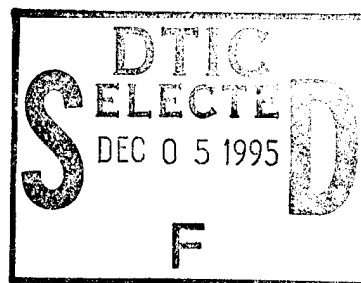
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May 23, 1980

Mr. William E. Trieschman, Jr.
Chief, Planning Division
Baltimore District
Corps of Engineers
Box 1715
Baltimore, Maryland 21203

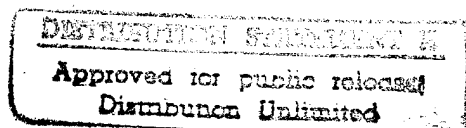


Dear Mr. Trieschman:

The Office of Historic Preservation is in the process of reviewing the Phase I Advanced Engineering and Design Studies for the Local Flood Protection in Lock Haven in conjunction with the Cultural Resources Reconnaissance Report modified by your letter of February 20, 1980. With regard to the archeological mitigation Dr. Barry Kent, State Archeologist, and our office generally agree with Dr. Coran Hay's recommendations for an Intensive Phase II Archeological Survey.

With regard to the historic resources the proposed flood wall in the area between Vesper and Race Streets will have an adverse impact on the Water Street Historic District and the Heisey House by visually isolating these properties from the river. The 1975 Memorandum of Agreement with the Advisory Council on Historic Preservation states that six openings will be made in the floodwall to mitigate the isolating effect of the project. Since the demolition of the Mackey Carriage House and the Bald Eagle Cross Cut Canal Lock are not covered by this memorandum and the decision has been made to eliminate the openings in the flood wall for structural reasons, I believe a new memorandum of agreement should be prepared for this project to agree upon the mitigation proposed in the Cultural Resources Report.

If you have any further questions in this matter, please do not hesitate to call me at (717) 783-8947.



Sincerely yours,

Brenda Barrett

Brenda Barrett
Chief
Division of Planning and Protection
Office of Historic Preservation

cc: Dr. Thomas King,
Advisory Council on
Historic Preservation
BB:jek

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20 February 1980

Mr. Edward Weintraub
Pennsylvania Historic Preservation Officer
Pennsylvania Historical and Museum Commission
P. O. Box 1026
Harrisburg, Pennsylvania 17120

Dear Mr. Weintraub:

The purpose of this letter is to coordinate the Final Cultural Resources Reconnaissance Report prepared for the Lock Haven, Pennsylvania Local Flood Protection Study (see Inclosure 1). We will also take this opportunity to briefly review our coordination with your office and the Advisory Council on Historic Preservation, to present the Baltimore District's current plans, along with the District's proposed Intensive Survey Plan for evaluating the significant cultural resources in Lock Haven, and to outline our schedule for the next steps in accomplishing our responsibilities for compliance with cultural requirements on the Lock Haven Study.

The attached final report is for your information and files. The draft report was sent to your office for review on 22 June 1979. The draft report consisted of two sections, a Prehistoric Section prepared by Conrad A. Hay et. al. of Pennsylvania State University under contract with the Woodward Group and a Historical Section prepared by Thomas R. Deans of the Woodward Group, Environmental Consultants to Erdman, Anthony, Associates, Camp Hill, Pennsylvania. The Final Cultural Resources Reconnaissance Report contains the two aforementioned sections and a Lockport Cultural Section (Section III) prepared by Stephen Israel, Baltimore District, Staff Archaeologist. Following the completion of the Lock Haven cultural investigations, the Lockport Community on the West Branch was included in the Flood Protection Study to consider the effects of flooding upon that community. In addition to investigating the significance of Lockport's historical structures which could be affected by flood protection measures, the staff archaeologist

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20 February 1980

Mr. Edward Weintraub

did additional research on the Mackay Carriage House and buried 19th Century industrial sites on Water Street. This is included in Section III. Also, Section II of the Final Cultural Resources Report has been expanded to make additional recommendations.

On the basis of the 1974 Survey Report, the Baltimore District, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Places (ACHP) signed a Memorandum of Agreement for the Lock Haven Flood Protection Plan. On 1 March 1979, in a letter to your office, the Baltimore District reviewed that agreement and outlined the reasons for the District's recent decision to recommend earthen levees, in place of a concrete floodwall, in the reach downstream of Vesper Street and upstream of Race Street in Lock Haven (see Inclosure 2). The letter also contained our reasons for eliminating the six openings outlined in the 1975 Memorandum of Agreement.

We indicated that the District and its consultant spent a considerable amount of effort trying to incorporate the openings and associated closure structures into our Flood Protection Plan. However, from a safety standpoint the openings were unacceptable. Furthermore, subsurface investigations discovered poor foundation conditions for a wall and we stated that we were, instead, planning to construct a levee through much of the reach where openings were originally planned. On 22 August 1979 your office responded favorably to the Baltimore District's modified plan for mitigating the effects of the Lock Haven Local Flood Protection Project (see Inclosure 3).

The current 1978 and 1979 Cultural Resources Reconnaissance Investigations were undertaken to provide more detailed analysis than was accomplished during the 1974-1975 Pre-Authorization Cultural Reconnaissance which culminated in the signing of the Memorandum of Agreement and to determine the need for additional cultural survey investigations. The investigation of the prehistoric resources identified eight prehistoric sites, seven of which lie in the floodwall alignment. The reconnaissance recommends that the Cummings 1, Crissman's 1, 2, and 3, Memorial Park, Island View Park, and Water Street Sites receive further intensive survey. The historic investigation determined that the proposed wall and levee will protect all the structures within the Lock Haven Water Street and Sloan Historic Districts that extend along the West Branch Shoreline between Sixth and Washington Streets. The potential of physical and visual isolation of the community's traditional river and town relationship was identified as the major adverse impact upon the historical resources.

Suggestions were made that this adverse impact could be partially mitigated by careful planning and landscaping of the wall and levee surfaces in the sensitive historical area between Vesper and Race

20 February 1989

Mr. Edward Weintraub

Streets. The reconnaissance identified structures that would have to be razed or repositioned. These included the Mackey Carriage House and the Pennsylvania Cross Cut Canal Lock. The reconnaissance suggests that the canal lock could be preserved by incorporating the lock into the floodwall design. The McCormick Farmstead structure requires further consideration because it will continue to be flooded since it is located outside the wall. The reconnaissance also identifies several vanished 19th Century industrial sites located along Water Street and recommends that a more detailed analysis of these historical resources be conducted during the Intensive Survey.

In regard to Lockport, the reconnaissance identifies the John Hanna Farmhouse, the Slab Houses, Lock Keeper's House, and the adjacent canal lock in Lockport as historical structures worthy of further analysis. In regard to potential archaeological sites in the Lockport and Great Island areas, the reconnaissance recommends that further analysis of whether any increase velocity and stream flow conditions as a result of the project, would contribute to adverse affects on the floodplain prehistoric cultural resources.

Based upon additional analysis of the recommendations in the reconnaissance, the District intends to pursue the recommendations considered for Lock Haven's Cultural Intensive Survey work effort with some modification. The sites of concern and the reasons for modifying the consultant's recommendations are presented below:

Mackey Carriage House: The question of significance of the ca. 1854 carriage house is very much in doubt after extensive renovation following a 1954 fire. The suggestion for repositioning does not seem warranted for historical reasons and the District recommends documentation of the structure and removal.

Pennsylvania Bald Eagle Cross Cut Canal Lock: The consultant recommends test excavations and design implementation studies for preserving the Canal Lock as part of the floodwall. Based on engineering studies, the District believes this recommendation is not feasible. Instead, the District recommends documentation of the structure and removal.

Faisey House: The question of the wall openings was further recommended by the consultant; however, the District does not anticipate any further attempts to incorporate wall openings as explained in previous correspondence with your office. Rather, the plan proposes carefully planned landscaping.

For the aforementioned reasons, the Baltimore District intends to implement an Intensive Survey Plan which includes further testing of seven of the eight prehistoric sites identified by Pennsylvania State

NABPL-2

Mr. Edward Weintraub

20 February 1980

University, documentation and removal of the Mackey Carriage House and Pennsylvania Cross Cut Canal Lock, and survey level investigation of Water Street's vanished 19th Century logging industries and the McCormick Farmstead in Lock Haven, and the John Hanna Farmhouse, Canal Era Slab Houses, Lock Keeper's House and Canal Lock in Lockport. The District will also consider the project's potential effects upon other prehistoric sites in the adjacent floodplains in Lock Haven and Lockport.

A copy of this correspondence is being provided to the Clinton County Historical Society and to the Heritage Conservation and Recreation Service. In addition, a copy is being forwarded to the Advisory Council on Historic Places to present them with advance information to initiate their review under authority of the Final Amendments to 36 CFR 800, Protection of Historic and Cultural Properties, published 30 January 1979, and to facilitate their review of the Draft Supplemental Environmental Statement currently scheduled for April 1980.

It would be appreciated if any review comments you may have on the report and our proposed survey efforts be made available to us by 21 March 1980.

If you have any questions concerning the Final Report, or proposed Modified Intensive Survey efforts, please contact Mr. Stephen Israel or Mr. David Beese at (301) 262-2558 (ETS 922-2558).

Sincerely,

3 Incl
as

for *Del*
WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

CF:

Dr. Barry C. Kent
Pennsylvania Historical
and Museum Commission
P. O. Box 1026
Harrisburg, PA 17120

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20 February 1980

Dr. Victor Carbone
Heritage Conservation & Recreational Service
Interagency Archaeological Service
1395 Phoenix Boulevard
Atlanta, Georgia 30349

Dear Dr. Carbone:

Attached is a copy of our cultural resources reconnaissance coordination letter on the Lock Haven Local Flood Protection Study for your information. This letter explains the Baltimore District's plans for Intensive Survey work.

If you have any questions concerning the attached letter or proposed Modified Intensive Survey effort, please contact Mr. Stephen Tarsel or Mr. David Reese at (301) 962-2558.

Sincerely,

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WEL
WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

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20 February 1980

Mr. Robert R. Garvey, Jr.
Advisory Council on Historic Preservation
1522 K Street, NW.
Washington, D.C. 20005

Dear Mr. Garvey:

Pursuant to your regulations 36 CFR 800 and the U.S. Army Corps of Engineers (ER 1105-2-460) cultural resource regulations and as a follow up on our earlier Memorandum of Understanding in 1975 on our Lock Haven Local Flood Protection Study, Clinton County, Pennsylvania, we are forwarding to you our current plans and cultural resources reconnaissance report as Inclosures 1, 2 and 3.

If you have any questions concerning the final report, or proposed Modified Intensive Survey efforts, please contact Mr. Stephen Israel or Mr. David Reese at (301) 962-2558 or (FTS 922-2559).

Sincerely,

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WLB
for WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

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NABPL-E

20 February 1980

Mr. Richard B. Ulp
Erdman, Anthony, Associates
P. O. Box 236
Camp Hill, Pennsylvania 17011

Dear Mr. Ulp:

Attached is a copy of our cultural resources reconnaissance coordination letter on the Lock Haven Local Flood Protection Study for your information. This letter explains the Baltimore District's plans for Intensive Survey work.

If you have any questions concerning the attached letter or proposed Modified Intensive Survey effort, please contact Mr. Stephen Israel or Mr. David Reese at (301) 962-2558.

Sincerely,

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WEL
for WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

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20 February 1980

Mr. James Glenn
National Anthropological Archives
Mail Stop 152
National Museum of Natural History
Constitution Avenue at 10th Street, N.W.
Washington, D.C. 20560

Dear Mr. Glenn:

Attached is a Final Cultural Resources Reconnaissance Report for the Lock Haven, Pennsylvania, Local Flood Protection Study for your information and files. The attached report was compiled in three parts by three investigators. The Historical Resources Section on Lock Haven was prepared by Thomas R. Deans of the Woodward Group, Environmental Consultants to Erdman, Anthony, Associates, Camp Hill, Pennsylvania. The Prehistoric Resources Section was prepared by Dr. Conrad A. Hay et. al. of Pennsylvania State University under contract with the Woodward Group. The third section on Lockport's cultural resources was prepared by Stephen Israel, Baltimore District Staff Archeologist.

If you should have any questions concerning the final report, please contact Mr. Stephen Israel or Mr. David Reese at (301) 962-2558 (FTS 922-2558).

Sincerely yours,

1 Incl
As stated

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for WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

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COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION
WILLIAM PENN MEMORIAL MUSEUM AND ARCHIVES BUILDING
BOX 1026
HARRISBURG, PENNSYLVANIA 17120

August 22, 1979

Mr. William E. Trieschman, Jr.
Chief, Planning Division
Department of the Army
Baltimore District
Corps of Engineers
Box 1715
Baltimore, Maryland 21203

Dear Mr. Trieschman:

The Office of Historic Preservation has reviewed the draft Cultural Reconnaissance Report for the Lock Haven local flood protection study. This report, edited and coordinated by Thomas Deans adequately addresses the historic and archeological resources located in the proposed flood control area. Your office is already in receipt of a letter from Dr. Barry Kent, the State Archeologist, commenting favorably on the report's treatment of archeological resources.

This office would be supportive of a levy alternative to the proposed flood wall for the project area as having less impact on the Lock Haven Historic District. When the Corps of Engineers reaches the final design stage of the project, consultation on the affect of the project should be initiated with this office and with the Advisory Council on Historic Preservation. We will be glad to be of assistance in developing strategies to mitigate the affect of the project on historic and cultural resources. If you have any further questions in this project, please contact Brenda Darrett at (717) 787-4363.

Sincerely,

Ed Weintraub
State Historic Preservation Officer

NABPL-E

20 February 1980

Mr. Bruce Bechdel
President
Clinton County Historical Society
The Heisey Museum
362 East Water Street
Lock Haven, Pennsylvania 17745

Dear Mr. Bechdel:

Attached is a copy of our cultural resources reconnaissance coordination letter on the Lock Haven Local Flood Protection Study for your information. This letter explains the Baltimore District's plans for Intensive Survey work.

If you have any questions concerning the attached letter or proposed Modified Intensive Survey effort, please contact Mr. Stephen Israel or Mr. David Reese at (301) 962-2558.

Sincerely,

3 Incl
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WEL
for WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

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NABPL-E

1 March 1978

Mr. Edward Weintraub
Pennsylvania Historic Preservation
Officer
Pennsylvania Historical and Museum
Commission
P.O. Box 1026
Harrisburg, Pennsylvania 17120

Dear Mr. Weintraub:

The purpose of this letter is to re-establish coordination with the Pennsylvania Historical and Museum Commission regarding the proposed Lock Haven Local Flood Protection project's impacts on identified National Register properties and the 1975 Memorandum of Agreement between your Commission, the Advisory Council on Historic Preservation, and the Corps of Engineers. But, for a moment, allow me to briefly review the current study effort and state where we are today.

The Baltimore District is continuing with a Phase I, Advanced Engineering and Design (AE&D) study of the Lock Haven Local Flood Protection project in Clinton County, Pennsylvania. Prior to the initiation of the current Phase I study, the findings of the most recent investigations of the project were contained in a September 1974 Survey Report. The purpose of that report was to determine the feasibility of providing flood protection for Lock Haven along the West Branch Susquehanna River and Bald Eagle Creek. A structural system of levees and floodwalls with closure structures was recommended for further study.

Initiated in October 1977, the AE&D study has reviewed the previous reports and determined current conditions to provide a basis for re-affirming the feasibility of the project authorized by the 1976 Water Resources Development Act. The study efforts to date have centered on establishing the alignment of the wall and levee and the various levels of protection that can be afforded by the system. An information pamphlet which was prepared for the 14 November 1978 informal public workshop in Lock Haven is inclosed as Inclosure 1. The pamphlet presents the various alignments, alternatives, and other details of the project that we have considered.

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1 March 1979

Mr. Edward Weintraub

During the preparation of the 1974 Survey Report, the Baltimore District, in consultation with the Pennsylvania Historic Preservation Officer determined that the flood protection project would have an adverse effect upon the Water Street Historic District and the Heisey House (now the Heisey Museum) at 362 East Water Street, properties included in the National Register of Historic Places. In compliance with Section 106 of the National Historic Preservation Act of 1966, the District coordinated with the Advisory Council On Historic Preservation regarding the determination of adverse effect and in accordance with Section 800.4(e) of the Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R., Part 800), the District notified the Pennsylvania State Historic Preservation Officer of the Corps' request to the Advisory Council for comments. The Council's consultation process was followed and culminated in the execution of a Memorandum of Agreement which outlined a solution to satisfactorily mitigate the adverse effect on the properties in question. The 1975 Memorandum of Agreement appears on pages B-28 and B-29 of Appendix B to the Final Environmental Impact Statement. A complete copy of Appendix B which includes correspondence from the Pennsylvania State Historic Preservation Officer, the State Liaison Officer, the U.S. Department of the Interior, National Park Service, the Advisory Council, and the Baltimore District is provided as Inclosure 2 for your information.

As noted in paragraph 1 of the Agreement's stipulations, it was mutually agreed that six openings would be included in the floodwall to mitigate the adverse impacts of physically and visually isolating the National Register properties from the West Branch. The closure structures would provide the necessary protection from flooding when closed during high flood stages. Furthermore, it was agreed that the locations of such openings were to be selected in consultation with the Historic Preservation Officer for Pennsylvania in addition to selecting appropriate landscaping measures and architectural surface treatment of the wall.

The original plan of protection as presented in the 1974 Survey Report, recommended a floodwall to be constructed along the West Branch Susquehanna River and a levee behind the airport facility and along Bald Eagle Creek. As developed in the more recently developed plan for flood protection, all intersections of the levee or wall with highways and railroads would be closed by either ramping the road over the levee or by closure structures. Presently, a major closure would be required over the railroad tracks just to the south of the airport facility and at the railroad tracks at the western terminus of the project along the West Branch. In addition, a closure structure would also be required at the Jay Street Bridge leading to Lockport and two closure structures are being considered for the public boat launch area just east of the Jay Street Bridge and directly opposite the Heisey Museum which is near the eastern limit of the Water Street Historic District.

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Mr. Edward Weintraub

1 March 1979

Since closure structures require installation in order to complete the total protection system, an attempt has been made to replace closure structures with ramps whenever possible. Ramps are permanent and do not require installation at the last minute, an effort requiring extensive local coordination of manpower, machinery, and maintenance activities.

The Baltimore District and the consulting firm of Erdman Anthony Associates of Camp Hill have spent a considerable amount of effort in attempting to incorporate the closure structures as agreed to in the Memorandum of Agreement along with those absolutely necessary for a basic plan of protection. Preliminary plans developed to date which included the six closures are simply not acceptable from a safety standpoint due to the implementability problems already mentioned. Furthermore, based on our experience with the Binghamton, New York local flood protection project, closure structures in the wall to permit visual and pedestrian access to the river have been permanently closed due to operational and maintenance problems.

Recent subsurface explorations have, however, determined that poor foundation conditions exist along the western end of the Water Street alignment. Therefore, we are revising our plan and are proposing that a levee be constructed instead of a floodwall throughout this reach. A new fact sheet, dated 23 February 1979, has been prepared and is provided with this correspondence as Inclosure 3. As stated in the fact sheet, a short stretch of floodwall would begin the alignment to a point where sufficient room exists for a levee. The levee would then continue for about 2200 feet to Vesper Street where space limitations necessitate a return to floodwall. The revised limits of the floodwall and levee are indicated on a supplemental general plan which is furnished as Inclosure 4.

Regarding the impacts of the Historic District resulting from this proposal, we believe the levee system to be less disruptive than the floodwall alternative. Although more real estate is required to accommodate the levee, the impact of a levee on area aesthetics is much less severe and fewer environmental problems would be encountered (e.g., elimination of noise reverberation from the traffic side of the floodwall). Additionally, more opportunity exists with the levee for pedestrian access to the river. A bike-hike path on top of the levee is being considered to mitigate disruptions to the existing non-vehicular circulation system and to enhance pedestrian use where possible. Access ramps to the pathway would occur at select points along the alignment to coincide with existing or altered circulation patterns.

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Mr. Edward Weintraub

1 March 1979

While the levee alternative does not alleviate the loss of visual continuity with the river, it does not present the same feeling of confinement imposed by a floodwall. Thus landscaping techniques can more effectively reduce the levee's structure impact than that of a floodwall.

Since this proposal constitutes a change to our 1975 agreement and since we are responsible for past obligations, I request that you carefully review this correspondence and furnish us comments on our proposal. Due to the magnitude of the proposed project and the Baltimore District's intent to be as responsive as possible to cultural and environmental resources, we would be glad to meet with you and the Clinton County Historical Society at your earliest convenience to discuss this matter further. Please contact Mr. Stephen Israel or Mr. David Webber at (301) 962-2558 or 2559.

Sincerely yours,

4 Incl
As stated

WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

THE LOCK HAVEN FLOOD PROTECTION PROJECT

CULTURAL RESOURCES RECONNAISSANCE

COMPILED IN THREE SECTIONS

I. ARCHEOLOGICAL RESOURCES RECONNAISSANCE

Prepared by: Conran A. Hay
James W. Hatch
Christopher Stevenson

II. HISTORICAL RESOURCES RECONNAISSANCE

Prepared by: Thomas R. Deans

III. CULTURAL RESOURCES RECONNAISSANCE REPORT ON LOCKPORT

Prepared by: Stephen S. Israel

PREFACE

This report has been prepared in three sections in order to focus separately on historical and archeological characteristics of the area of the proposed Lock Haven flood protection project, as well as to identify cultural resources and the project impact in Lockport.

The Archeological Resources Reconnaissance, the first major section of this report, addresses the following: a) previously discovered archeological sites b) the prehistoric background of the area c) predictive generalizations concerning the nature of archeological resources d) archeological survey report e) National Register and project impact considerations.

It also contains a Preliminary Proposal for an Intensive Phase II Archeological Survey.

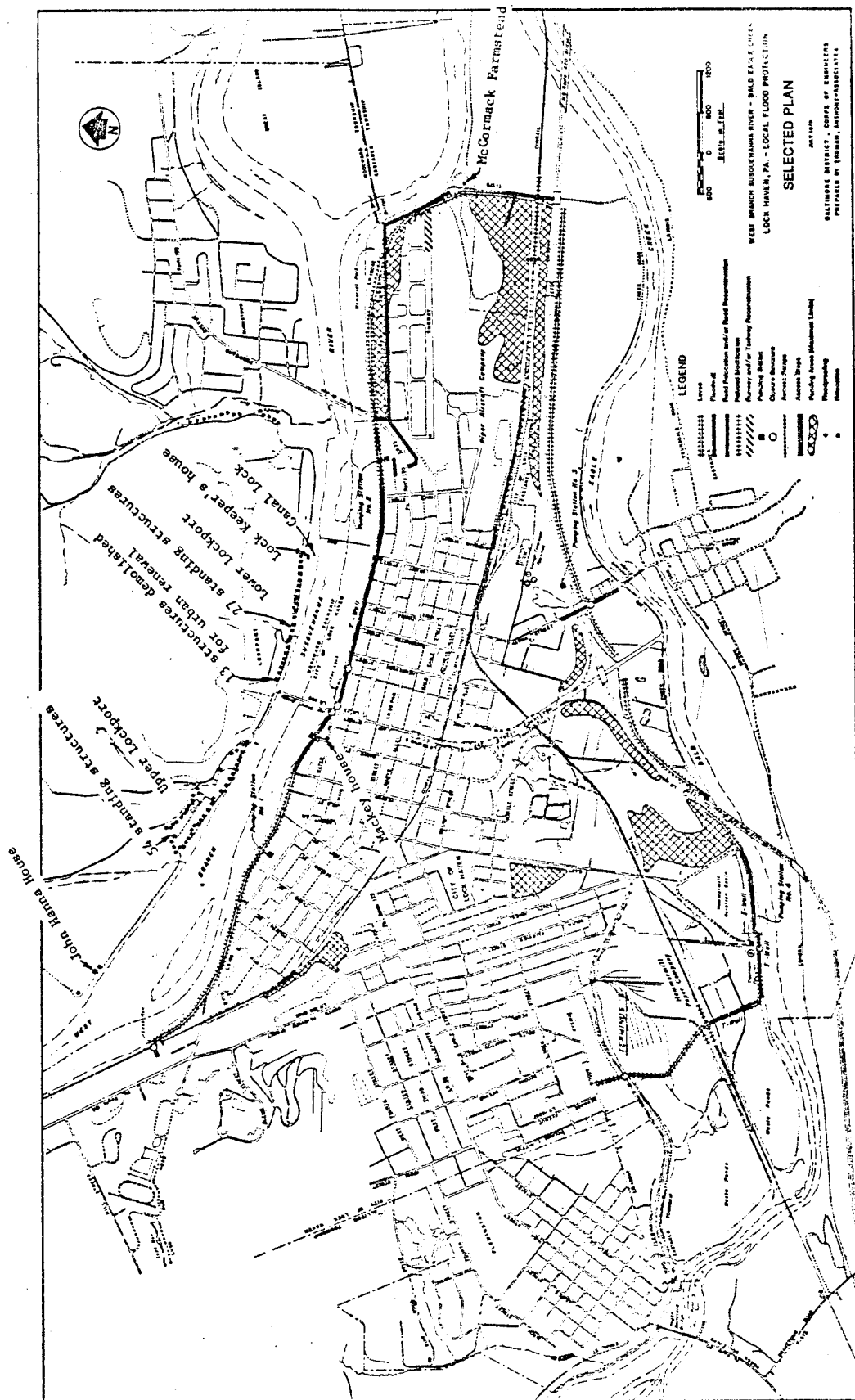
The second section, the Historical Resources Reconnaissance, outlines in detail the growth and development of Lock Haven from an economic and cultural perspective, identifies the diverse architectural heritage of the City and assesses the impact of the flood protection structure on affected neighborhoods. The Historical Resources Reconnaissance contains a Preliminary Proposal for an Intensive Phase II Historical and Artifactual Investigation.

The third section, the Cultural Resources Reconnaissance Report on Lockport, presents a description of the cultural resources of the Lockport locale, and the extent to which the Lock Haven flood pro-

tection project could potentially adversely impact on Lockport's cultural resources. This third section is organized in three parts: the introduction, the analysis, and the study recommendations. A preliminary budget estimate is provided for Intensive Survey during Phase II.

Proposed Plan of Protection

The proposed plan of protection for Lock Haven consists of a levee and floodwall with associated interior drainage and utility modifications. The flood protection system would reduce flood damages to existing development and would protect any future development. The proposed alignment of the wall and levee is shown on Plate A, which is included immediately following this page. An earthen levee would extend from Lock Haven State College to Vesper Street. A concrete wall would extend from Vesper Street to Race Street. From Race Street an earthen levee extends around the east end of the airport to U.S. Route 220. From this point until the highway crosses the Bald Eagle Creek, the highway is used as a levee. Thence two alternating sections of levee and wall are used to skirt the industrial facilities of the Hammermill Paper Company. At the Conrail tracks the structure is a levee and travels northward to tie into high ground near the corner of Woods Avenue and Bennage Avenue. Openings are provided at intersections with highways, railroads, and at River Bank Park.



I. ARCHEOLOGICAL RESOURCES RECONNAISSANCE

The Lock Haven
Flood Protection Project
Clinton County, Pennsylvania

Conran A. Hay

James W. Hatch

Christopher Stevenson

James W. Hatch
Principal Investigator
and
Consultant to
Erdman, Anthony, Associates

December 1979

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I. Management Summary and Recommendations

The Corps of Engineers has proposed the construction of a wall and levee flood control system in the city of Lock Haven, PA. In conjunction with this project, the Woodward Group has employed The Pennsylvania State University to conduct a Phase I archaeological reconnaissance. As outlined in "Scope of Work, Cultural Resources Reconnaissance," issued by the Baltimore District, Corps of Engineers, the goals of a Phase I archaeological reconnaissance are 1) to accumulate sufficient data concerning the prehistoric resources located within the reconnaissance zone to make predictive generalizations concerning the nature of undiscovered archaeological sites in that zone, 2) to test these predictive statements through a limited archaeological reconnaissance of the study area, 3) to assess the archaeological significance of all sites discovered and/or investigated during the reconnaissance, and 4) to suggest methods and costs for future, more intensive archaeological research in the study area.

An archaeological research project complying with these specifications was directed by the authors during September, 1978. The first phase of this investigation consisted of literature and background research. It was determined that the project area is located in a highly favorable situation for prehistoric habitation,

and can therefore be expected to produce a relatively large number of prehistoric sites. Several types of prehistoric habitations can be expected to occur, including base camps, hunting camps, and village sites. Furthermore, local geological conditions have led to the accumulation of alluvial sediments within the project area. As a result, deeply stratified sites of considerable archaeological significance are probably present.

These expectations were confirmed during the second phase of research, which involved surface surveys, deep probe testing, and test excavations of selected areas within the study zone. Eight prehistoric sites were located, investigated, and evaluated during this phase. One site--the Memorial Park Site--is clearly eligible for nomination to the National Register of Historic Places. Negative impacts to this site can possibly be avoided by selecting an alignment alternative that does not intersect the site. Alternatively, impact can be mitigated through archaeological excavation. Present evidence suggests that four other sites have a high probability of meeting National Register Criteria. These include the Island View Park Site, Crissman's Field Site 1, and Cummings' Field Sites 1 and 2. Of these, only the Island View Site and Cummings' Field Site 2 will be impacted by project construction. In the first case, mitigation of impact will require archaeological excavation. In the latter case, either archaeological excavation

or choice of an alternative alignment will mitigate impact. Sites that do not appear to meet National Register criteria include Crissman's Field Sites 2 and 3. Insufficient data is available to evaluate the Water Street Site.

Although preliminary data concerning the nature of the archaeological remains in the project area are now available, an intensive, Phase II archaeological survey as described in 36 CFR 66 will be required to comply with current legislation concerning the protection of archaeological resources (The National Historic Preservation Act of 1966, Section 106: Executive Order 11593). A preliminary proposal and budget estimate for this survey are provided.

II. Physiographical, Geological, and Ecological Background

The city of Lock Haven is located in north-central Pennsylvania on a point of land formed by the confluence of the West Branch of the Susquehanna River and the Bald Eagle Creek. These two rivers drain large portions of central Pennsylvania, and provide the major physiographic link between the Appalachian highlands of western Pennsylvania and the Piedmont of eastern Pennsylvania. The city is situated on a level, low-lying, narrow floodplain which is bordered on both sides by wooded highlands. To the north and west are the foothills of the Allegheny Plateau--a

land-form which consists of irregularly dissected highlands, and which is found throughout much of western and north-central Pennsylvania. To the south and east of the city lies the Ridge and Valley Province of south-central, central, and northeastern Pennsylvania. This latter physiographic region is dominated by long, parallel, evenly-spaced ridges separated by narrow valleys. The city of Lock Haven thus lies on the boundary between these two major physiographic provinces, and at the confluence of two of the most important drainages in central Pennsylvania.

The uplands surrounding Lock Haven consist of geologically resistant sandstones and shales, while less resistant limestones and shales underlie the valley floor upon which the city is situated. These bedrock formations are covered by surficial deposits of sideslope colluvium and terrace alluvium. Four alluvial terraces of Wisconsin age are present on the valley slopes in the Lock Haven vicinity, and occur at elevations of 10, 20-25, 40, and 80 feet above stream-base flow. The second of these terraces (20-25') is by far the most extensive, and in fact forms the bulk of the present valley floor. It consists primarily of sands, silts, and clays in varying proportions, and reaches a maximum thickness of approximately 50' above bedrock. Colluvial deposits are found on the flanks of the uplands which surround Lock Haven, and consist primarily of angular quartzitic debris derived from these upland areas.

The soils in the Lock Haven area, and in much of central Pennsylvania, belong to the Gray-Brown Podzolic Great Soil Group. They are characterized by a thin humic zone overlying a whitish "A" horizon which has been leached of iron and alumina. Beneath this "A" horizon is a reddish-brown or yellowish-brown "B" horizon in which the iron and clays leached from above have been concentrated. Finally, a "C" horizon grades from the "B" horizon into the parent bedrock material. In the Lock Haven area, these soils vary primarily with slope and parent material. On the steep slopes that form the valley walls, soils have developed on bedrock or on colluvium, and are often rocky and/or shallow. As a result they are difficult to till, and most of these areas are not cultivated at present. On the level valley floor, however, soils have formed on alluvium, and are fine textured and well drained. Known as Ashton silt loams, they are the most productive soils in Clinton County, and probably in much of central Pennsylvania. Virtually all areas where these soils occur are cultivated today, with the exception of those that have been made inaccessible by modern and historic construction.

Although the alluvial valley floor in the vicinity of Lock Haven is primarily of Wisconsin age, sedimentation and erosion has continued throughout the Holocene, and continues today. Episodes of sedimentation and erosion occur primarily during floods, which have an average periodicity of 1 per 7 years (anonymous, 1974). As a result of these processes, the Wisconsin alluvium is covered by a

thin veneer of more recent alluvium in most areas. Archaeological materials can be anticipated within these more recent deposits.

Prior to European settlement in the Lock Haven area, the uplands to the south and east of the city were probably covered by oak-chestnut climax forest vegetation, in which chestnut oaks, chestnuts, birches, and red oaks were the dominant species. The same areas are covered with a similar forest today, but due to periodic logging, this modern forest reaches only secondary growth stage. An oak-chestnut climax forest was probably the dominant form of vegetation on the valley floors as well. Here, however, white oaks were probably the most dominant species. The foothills of the Allegheny Plateau to the north and west of Lock Haven were probably covered by a mixed climax forest consisting of elements of the oak-chestnut community, the hemlock-white pine-northern hardwood community, and the mixed mesophytic community. Finally, mixed mesophytic communities may also have been present within sheltered ravines and coves within both the Allegheny Plateau and the Ridge and Valley Province (Braun, 1974). For aboriginal human populations, the most important single food source provided by these various forest types was probably the different varieties of nuts produced by the hardwoods--especially the oaks and chestnuts--in the fall. Other important foods probably included edible seeds, berries, roots, etc.

The forests of central Pennsylvania supported a varied faunal population, including white-tailed deer, elk, black bear, wolf,

mountain lion, bobcat, gray fox, raccoon, fox squirrel, and wild turkey. Of these, the white-tailed deer was probably the most important as an aboriginal food source. Supported by forest-edge browse during most of the year, and by the mast production of nutbearing trees during the fall, the deer population was a plentiful and reliable source of animal protein. Black bear and wild turkey were probably important secondary protein sources. These were supplemented seasonally by annual runs of anadromous fish in the spring, and by the flights of migratory birds during both the spring and the fall.

III. Prehistoric Background

Four major archaeological periods are presently recognized in the central Pennsylvania region. The first of these is the Paleo-Indian Period, lasting from initial settlement in the area (perhaps as early as 20,000 B.C.) until approximately 8000 B.C. It is followed by the Archaic (8000 B.C. to 2000 B.C.), the Transitional (2000 B.C. to 1000 B.C.), and the Woodland (1000 B.C. to historic contact) Periods. Evidence of human occupation in the region has been discovered for all of these periods, although the nature and diversity of that evidence varies considerably from period to period.

The Paleo-Indian Period

During Paleo-Indian times climatic conditions in central Pennsylvania differed significantly from those that characterize the area today. Major continental glaciers covered large parts of northern North America, and produced a wetter and cooler climate in more southerly, non-glaciated regions such as central Pennsylvania. Associated with these different conditions, spruce-pine-hemlock forests were the predominant form of vegetation, and Pleistocene, cold-adapted animals such as the mastodon, the woodlands bison, and the caribou were the dominant faunal elements. Like their contemporaries in other parts of North America, Paleo-Indians in central Pennsylvania probably lived in hunting-gathering bands, and subsisted at least partially by hunting these large Pleistocene herd animals. They may also have collected small game and wild plant foods; however, most reconstructions of Paleo-Indian lifeways emphasize big-game hunting as the dominant economic activity.

To date, the only evidence of a Paleo-Indian occupation in central Pennsylvania consists of rare finds of the fluted-spear points that were made during this period (Turnbaugh, 1977). These are generally discovered as isolated finds at sites where materials from latter periods are abundant. They probably represent very short visits by Paleo-Indian bands or hunting parties, and are not

true Paleo-Indian camp sites. They do indicate, however, that Paleo-Indian peoples lived in central Pennsylvania. Their camping sites will probably be discovered in the future.

The Archaic Period

At the close of the last major glacial episode, Paleo-Indian cultures were replaced by Archaic ones. This change coincides with a climatic warming trend, with the replacement of the spruce-pine-hemlock-evergreen forest by the oak-chestnut deciduous forest, and with the replacement of the Pleistocene cold-adapted fauna by deer, elk, bear, turkey, and other deciduous forest species. The Archaic cultural pattern seems to represent the adaptive response of the human populations in the area to these climatic and ecological changes. New projectile-point types and the addition of grinding equipment to the technological inventory suggest that new food sources--solitary forest animals and nuts and/or seeds in particular--were becoming more important in the diets of Archaic peoples. Trapping and fishing were probably important subsistence activities as well (Caldwell, 1958; Willey, 1966). Since each of these activities was conducted during the most appropriate seasons and in the most favorable localities, considerable band mobility was required. It is likely that different camps were occupied during different times of the year and for different economic purposes. Base camps, hunting and butchering camps, and special

purpose camps such as nut-collecting stations were probably located in different areas, and occupied during the most appropriate seasons.

At present, archaeological research concerning the Archaic Period in central Pennsylvania is still in its infancy, and consists of surface surveys and small-scale testing in the Bald Eagle and Nittany Valleys to the south and west of Lock Haven (Webster et al., 1977; Hatch, 1978), of excavations conducted at the Milesburg site in the Bald Eagle Valley (Webster et al, 1977), of Turnbaugh's survey of the West Branch of the Susquehanna River drainage, and of excavations at the Sheep Rock Shelter Site located on the Raystown Branch of the Juniata River (Michels and Smith, 1967). In addition, two small Archaic sites (36 LY 76 and 36 LY 160) have been excavated in Lycoming County (Turnbaugh, 1977). These investigations indicate that utilization of the area by Archaic peoples was by far the most intensive during the Late Archaic phase, which includes the last 1000 years of the Archaic Period. In addition, the areas investigated to date seem to have been utilized primarily as hunting territories by small bands, since virtually all of the Late Archaic sites that are presently known seem to represent small, temporarily-occupied hunting camps (Hatch, 1978; Turnbaugh, 1977). John Witthoft (1971) has proposed a model of Archaic Period lifeways that provides a possible explanation for this pattern, and sheds further light on Archaic

settlement and subsistence practices. According to Witthoft (1971), the Archaic adaptive pattern was maintained into historic times by the Algonkian Indians of Eastern Canada. At the time of initial European settlement in the northeastern United States, Algonkian Indian groups were observed living near lakes or rivers in large camps of several hundred individuals during the summer months. While in residence in these camps, their subsistence activities focused primarily on the fish and shellfish that were available in the lakes and/or streams, and secondarily on the wild plant and animal foods available in the vicinity of the camp. During the fall, winter, and spring, however, these large summer groups fragmented into several smaller units, each of which moved frequently and independently of the others to a series of small winter camps, and subsisted largely on the proceeds of the hunt (Witthoft, 1971; Leacock, 1954).

If the Archaic Period hunters and gatherers of central Pennsylvania maintained a similar settlement-subsistence system, one would expect several varieties of Archaic sites in the area. At favorable points along major rivers, one should encounter the remains of large Archaic base camps which should contain the varied technological equipment needed in the performance of the economic activities conducted during the summer season--fishing, hunting, trapping, wild plant food gathering, etc. Scattered throughout the area, and especially along the lesser drainage

systems, one might expect to find numerous smaller camps with artifactual inventories dominated by hunting equipment. Special purpose sites, such as nut-gathering stations and quarries for lithic raw material, might also be expected at appropriate locations.

The small, Late Archaic hunting camps that are so numerous in the Bald Eagle and Nittany Valleys conform to these expectations. They are located within the drainages of secondary and tertiary tributaries, rather than along major rivers. However, they are close enough to a major river (the West Branch of the Susquehanna) to be well within the territory traversed by a hunting-gathering band that maintained its base camp on that river. One can therefore hypothesize that during the fall, small bands of Archaic hunters traveled up the Bald Eagle Creek from summer base camps located on the West Branch of the Susquehanna River. Throughout the winter, these bands probably moved from camp to camp in the Nittany Valley and in the upper reaches of the Bald Eagle Valley according to the availability of game. In the spring, they returned to their base camps on the West Branch, where they rejoined other similar bands that had also spent the winter in remote areas. They remained at these larger camps throughout the summer, subsisting primarily by fishing and wild plant food gathering. In the fall, they returned again to their more remote hunting territories.

Although this settlement-subsistence model requires further archaeological testing, it is consistent with present data concerning Archaic settlement patterns in the Bald Eagle and Nittany Valleys, with ethnohistoric descriptions of cultures that probably maintained lifeways very similar to those of Archaic peoples, and, as indicated below, with the general character of Archaic remains in the Lock Haven vicinity.

The Transitional Period

The Transitional Period is marked by the appearance of new projectile point styles, by the use of steatite cooking vessels, and by an increase in the importance of fishing equipment in artifactual assemblages. It is also distinguished from the earlier, Archaic Period by the more exclusive use of a single lithic raw material--rhyolite--for the manufacture of projectile points. Present data suggest that this material is only available at several outcrops in south-central Pennsylvania, where large accumulations of prehistoric quarry debris can be observed today. However, rhyolite points and debitage occur in Transitional Period sites throughout most of eastern and central Pennsylvania, indicating that the material was transported and traded over a very wide region.

These features suggest that Transitional peoples had developed a new and distinctive adaptation to the environmental conditions of central Pennsylvania. An increase in the importance of riverine

food resources and considerable mobility over long distances (probably by canoe) were important aspects of this new adaptive strategy. Further archaeological investigations of the settlement patterns of Transitional peoples are required before additional information concerning their lifeways will be available.

In central Pennsylvania, Transitional Period materials are frequently encountered on the surfaces of sites along with artifacts of various other ages and cultural affiliations. To date, two small, single-component Transitional sites (36 LY 6 and 36 LY 62) have been excavated in Lycoming County (Turnbaugh, 1977), a Transitional level was encountered in the Sheep Rock Shelter (Michels and Smith, 1967), and a hearth which is probably of approximately the same age was excavated at the Milesburg Site (Webster et al., 1977). The first three of these sites revealed the typical association of rhyolite projectile points, steatite vessels, and fishing equipment. In the last, however, a concentration of rhyolite debitage was associated with a very early form of Woodland pottery and with Late Archaic projectile point styles. Repeated occupations spanning a long period of time between the Late Archaic and the Early Woodland seem to be indicated by this pattern.

The Woodland Period

At approximately 1000 B.C. the Transitional cultures of central Pennsylvania were replaced by Woodland cultures, which are

distinguished from earlier manifestations by the presence of ceramics and by new projectile point styles. These technological changes probably represent still a further adaptive response on the part of the human populations in the area. In this case, the response may reflect the first large-scale use of cultivated plants in the eastern United States. Although the evidence of cultigens is meager at Early Woodland sites in Pennsylvania, squash, beans, chenopods, and amaranth were being cultivated in the greater northeastern area by this time, and were probably present in central Pennsylvania as well.

The Woodland Period is subdivided into three phases--the Early Woodland (1000 B.C. to 500 B.C.), the Middle Woodland (500 B.C. to 1000 A.D.), and the Late Woodland (1000 A.D. to historic contact at about 1700 A.D.). Although archaeological evidence concerning prehistoric lifeways during the first two of these phases is sparse in Pennsylvania, it is likely that the rudiments of agriculture were practiced and that people lived in small groups consisting of one or several families. Most Early and Middle Woodland sites are located near major rivers, and consist of a few small, semi-subterranean house foundations associated with sparse domestic refuse. In central Pennsylvania, archaeological remains from this period again consist primarily of scattered projectile points and pottery sherds on the surfaces of multi-component sites (Turnbaugh, 1977). Only at the Sheep Rock Shelter

and at a village site (36 LY 37) in Lycoming County have Early and Middle Woodland materials been excavated.

In contrast, the Late Woodland phase has been intensely investigated throughout eastern Pennsylvania, and to a lesser extent in central Pennsylvania. As a result, a fairly detailed picture of life during Late Woodland times has emerged. At the beginning of this phase, most of the Susquehanna River drainage was occupied by people with a culture known as Clemson's Island (Kent et al., 1971). This culture is distinguished by grit-tempered pottery and by broad-based, triangular projectile points. The Clemson's Island people lived in small villages of several households, and built small oval huts.. They almost certainly practiced agriculture, and supplemented their diets by hunting, fishing, and wild plant food collecting. At an unknown date sometime during the Late Woodland, these people were replaced by a new and, at least ceramically, an unrelated culture known as Shenk's Ferry. Like their Clemson's Island predecessors, the Shenk's Ferry people practiced agriculture, lived in small villages consisting of small oval huts, and made both grit-tempered pottery and triangular projectile points. Archaeologically, they are distinguished from the Clemson's Island people largely on the basis of differences in the decorative motifs of their pottery. The Shenk's Ferry culture was in turn replaced by the Susquehannock Indians--an historically known tribe that entered central Pennsylvania during the Late

sixteenth century. Susquehannock sites usually consist of large, stockaded villages located near major rivers. Their pottery is shell tempered, and they made small, narrow, triangular projectile points.

Several Late Woodland sites have been investigated in central Pennsylvania. At the Sheep Rock Shelter Site, the uppermost levels consisted of a dry midden dating largely to this phase. The remarkable preservation in this midden of perishable materials such as cordage and fabrics affords a detailed view of Late Woodland material culture. In addition, two Clemson's Island Sites (36 LY 1 and 36 LY 34) in Lycoming County have been excavated. A well-known amateur archaeologist--T. B. Stewart--conducted excavations at the Stewart Site, which is a Shenk's Ferry village located on the West Branch of the Susquehanna near McElhatten. The pottery from the Stewart Site has been discussed in detail by Witthoft (1954). The Quiggle Site, a stockaded Susquehannock village near Pine Station, Pennsylvania, was excavated early in this century by a joint expedition of the Rochester Museum, the University of Pennsylvania Museum, and the Pennsylvania Historical Commission, and has been investigated more recently by local amateurs under the direction of Ira Smith and Barry Kent, Pennsylvania State Archaeologists. The Fisher Farm Site, located in the Bald Eagle Valley near Milesburg, has been excavated recently by The Pennsylvania State University. It appears to be

a small hamlet that was occupied in turn by Clemson's Island, Shenk's Ferry, and Susquehannock peoples. Finally, surface surveys in the Bald Eagle and Nittany Valleys have located a large number of small, temporarily-occupied hunting camps that probably date to the Late Woodland phase.

At present, two types of Late Woodland sites can thus be distinguished in central Pennsylvania--semi-permanent villages of varying sizes and small, temporarily-occupied hunting camps. Sites of the first type are generally encountered on valley floors in the immediate vicinity, of rich alluvial soils. As evidenced by the Fisher Farm Site, they are not restricted to major river valleys such as that of the West Branch of the Susquehanna, but are also found within lesser drainages providing that alluvial soils are present. In contrast, sites of the second type (i.e. Late Woodland hunting camps) are widely scattered throughout the area, located near small streams and springs. These distributional patterns suggest that the settlement-subsistence systems of Woodland peoples were different in important ways from their Archaic Period forebearers. People now lived in semi-permanent villages located near prime agricultural land, rather than in summer base camps located near primary resource areas. These villages were present not only along the major drainages, but also within secondary and tertiary tributary drainages. During the summer, subsistence activities focused on the cultivation of

corn, beans, squash, and other less important crops. The presence of numerous small hunting camps in the same area suggests, however, that in the winter, hunting parties made forays into the more remote parts of their territories, and traveled from camp to camp in search of game. They probably returned periodically to their villages to share the meat they had acquired with those who had stayed behind. With the onset of spring, this activity probably became less important as people again turned their attention to the planting of crops.

The Historic Period

The Historic Period is the time of Indian-European contact. Relations between the two groups took various forms, usually beginning as trade interactions and proceeding ultimately to armed conflict and displacement of the Indian populations. At the time of the first European penetration into the central part of Pennsylvania, the Susquehannocks were the dominant Indian group in the region. They probably had entered the area about 1575, moving southward into the Susquehanna Valley to gain access to the fur trade with the Dutch on Delaware Bay. They remained the dominant group in the area until 1675, when their culture was finally shattered by the newly-introduced diseases brought by European settlers, by constant warfare with their Iroquoian neighbors to the north, and by incursions of Europeans moving up

the Susquehanna River from Maryland. During their 100 years in the central Pennsylvania area, the Susquehannocks operated as intermediaries in the flow of European goods from east to west, and many such goods are encountered in the archaeological sites that these people left behind.

With the collapse of the Susquehannocks, central Pennsylvania became a refuge area for other displaced Indian groups. The first of these were the Delaware, who entered the area in the 1680's. They were followed by the Shawnee in the 1690's and by the Nanticoke and the Conoy in the early 1700's. As the 1700's progressed, however, European settlement in central Pennsylvania began, and gradually displaced the Indian populations, which were forced to move further to the north and west as the frontier advanced.

IV. Previously Discovered Archaeological Sites in the Project Area

Three procedures were employed to identify all previously discovered sites in the area to be impacted by floodwall and levee construction. First, the relevant archaeological and historical literatures were reviewed to determine whether Indian sites had been discovered or excavated in the area, and whether early settlers at Lock Haven had documented the locations of Indian villages in the vicinity. Second, the site files housed in the office of the State Archaeologist, William Penn Memorial Museum,

Harrisburg, PA, were examined to further document the locations of recorded sites in the project area. Third, amateur archaeologists who collect prehistoric artifacts in the region were interviewed with respect to (a) their knowledge of localities where artifacts had been discovered and (b) their knowledge of any other local residents who might know of such localities.

A review of the archaeological literature revealed that no systematic research has been reported for the specific area to be impacted by the Lock Haven flood control project. However, research has been conducted at a number of sites in the general Lock Haven vicinity, and has been reviewed in the previous section of this report. The review of historical sources revealed that several documents discuss the locations of Indian settlements in and around Lock Haven. One of these may have been located quite close to the project area.

"Old Town Point," opposite the Great Island, is the eastern portion of the gently undulating plain on which Lock Haven now stands, and ends at an angular point at the confluence of Bald Eagle Creek and the West Branch, and a part of the grant to Dr. Francis Allison by Governor Richard Penn, under date of April 10, 1772. It is said to derive its name from an old Indian town that was once located there. Evidences of its existence could be seen some years ago, when the high water had cut away the bank and exposed the remains of camp fires. There were well preserved specimens of charcoal, and broken pieces of pottery found in the fire places. The settlement on the site of Lock Haven was also called Old Town prior to 1833. (Meguinnes, 1889)

The same source documents the presence of Indian burial mounds in the vicinity of the proposed construction.

The early settlers found several small mounds on what is now the site of Lock Haven. They contained bones of Indians and the various trinkets and implements usually buried with the remains of dead warriors. One of these mounds which was located near the bank of the river, just below where the Court House now stands, was removed when the canal was being built, and found to contain a large number of skeletons arranged in layers one above the other, with earth between. Other similar burial places were found in the neighborhood. (Meguinnes, 1889).

Several sources mention Indian towns which were located in the immediate vicinity of Lock Haven, but were not within the specific area to be impacted by project construction. Three such towns were located on Great Island; one on its easternmost point, one on its westernmost point, and one on the point opposite the mouth of Bald Eagle Creek (Winner, 1966). Indian towns were also observed "...on the small flat at the foot of the mountain, and opposite the eastern point of the (Great) island" (Meguinnes, 1889), and "...on the mainland, on the north side of the Great Island, and a short distance east of what is now the guard lock of the Pennsylvania Canal" (Meguinnes, 1889). The approximate locations of these towns and burial mounds are indicated on Map 1.

The site files housed in the office of the State Archaeologist indicate that 27 additional sites have been recorded in the Lock Haven vicinity. However, only 2 of these (36 CN 46 and 36 CN 46A) are sufficiently close to the proposed wall and levee alignments to be affected by the project. Both of these sites were investigated during the course of the archaeological reconnaissance reported here, and will be discussed more fully below.

In order to document previously discovered but unreported sites in the project area, four amateur archaeologists who collect in the region were interviewed, and partial inventories of their collections were made. Edwin Long of Lockport, PA, provided additional information concerning a number of sites on file with the State Archaeologist, and identified the locations of five previously unrecorded archaeological sites. One of these is located in an agricultural field on the north bank of the Bald Eagle Creek immediately south of Lock Haven, one is on the point of land formed by the confluence of Bald Eagle Creek and the West Branch, another is in the area where Piper Aircraft Corp. has constructed its runways, still another is a buried site in Lock Haven's Memorial Park, and the last is located in the area where the Hammermill Corp. has constructed its settling basins. This last site has been completely destroyed. Of the remaining four, three are in the immediate vicinity of floodwall and levee alignments, and were investigated during the course of this reconnaissance.

Karen Rocky of Woolrich, PA confirmed the location of the burial mounds discussed by Meguinnes (1889) when she observed Indian artifacts and fragments of human bone in the foundations of a dental office that was under construction at the time. Since the structure in question was being built in virtually the same location as that described by Meguinnes (1889), Mrs. Rocky concluded that a remnant of one of those same mounds had been

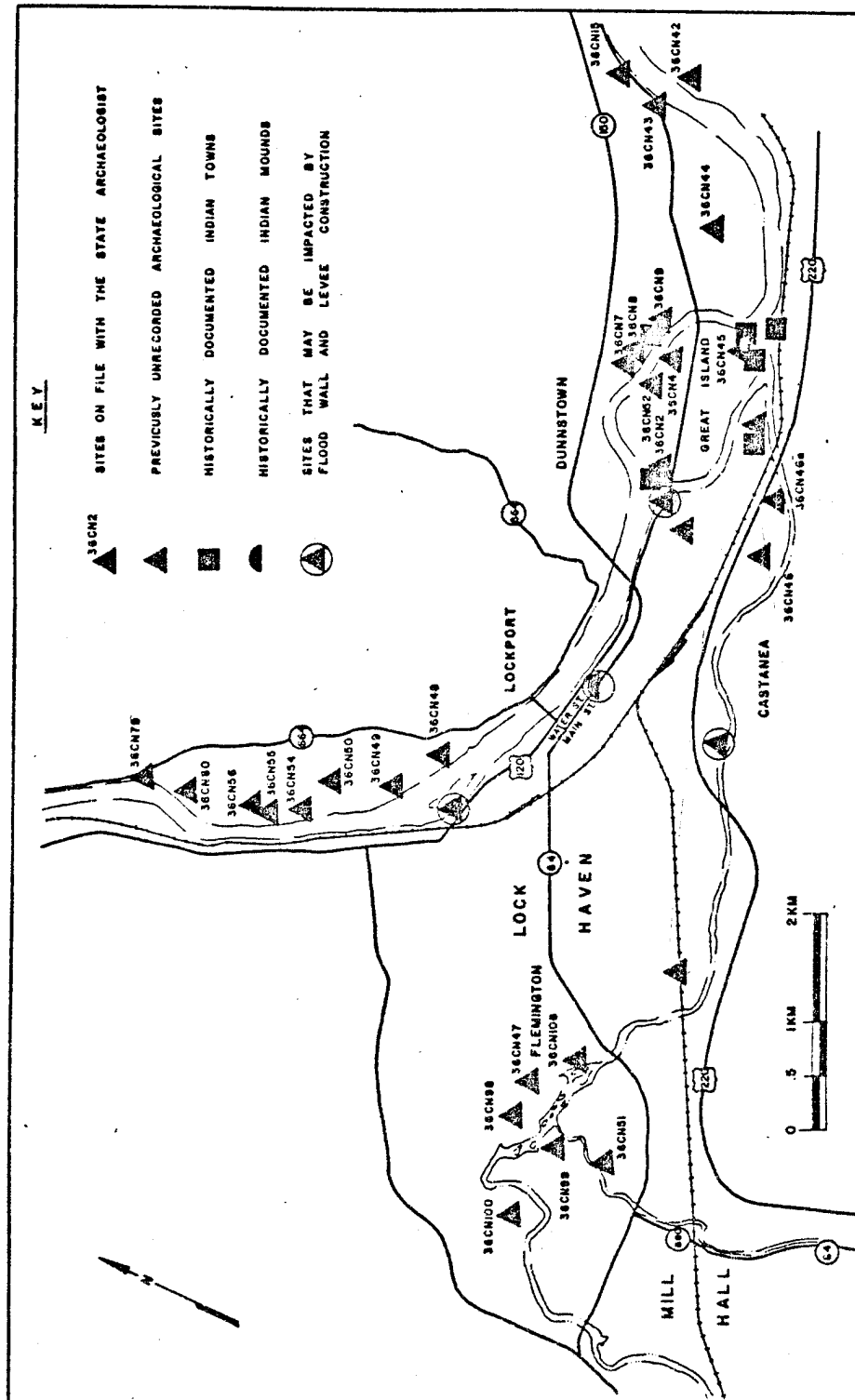
encountered. A sample of the artifactual materials and human bones that she was able to recover is illustrated in Plate 1. Since the pottery is technologically and stylistically similar to Clemson's Island pottery, it is reasonable to attribute a similar age to the burial mounds that once stood at this location. Mrs. Rocky also provided information concerning the nature of several previously recorded sites on file with the State Archaeologist, and in addition, identified a previously unrecorded site near the Island View Park in Lock Haven.

Frank Confer of McElhatten, PA and Richard Monroe of Fairpoint, PA were also interviewed with respect to archaeological remains in and around Lock Haven. Although they were able to confirm the locations of many sites recorded with the State Archaeologist and reported by other collectors, they knew of no additional sites in the project area. It was therefore concluded that little additional information would be gained through further collector interviews. The approximate locations of all previously unrecorded sites reported by amateur archaeologists are indicated on Map 1.

V. Predictive Generalizations Concerning the Nature of Archaeological Remains in the Project Area

The city of Lock Haven is located on a floodplain that has been subject to continual erosion and sedimentation throughout the period of human occupation in the area. As a result of these

PREVIOUSLY DISCOVERED SITES IN THE VICINITY OF LOCK HAVEN, PENNSYLVANIA



MAP 1

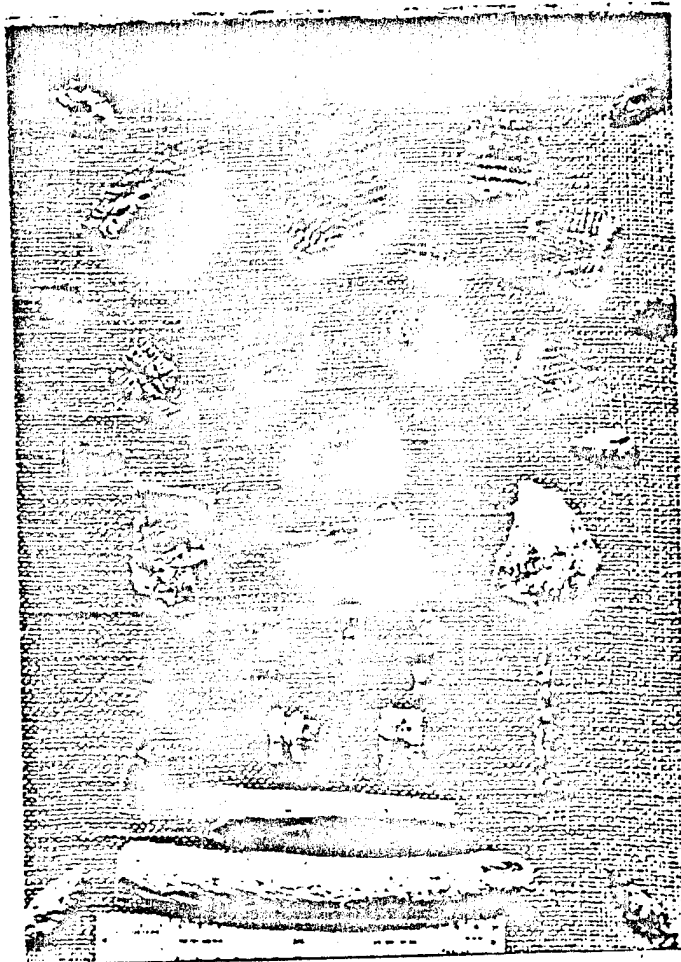


Plate 1: Artifacts and human bone collected by Karen Rocky from a burial located near the Lock Haven Court House: Clemson's Island pottery (above center); fragments of human skull (center right and center left); ceramic pipe (center); human and deer teeth (lower middle); human long bones (bottom). Projectile points are from various sites in the Lock Haven area.

processes, many archaeological sites have undoubtedly been destroyed. However, many may also have been buried in local situations where alluvium is, and has been, accumulating. These later situations are of prime archaeological importance, since they can be expected to provide relatively unmixed stratigraphic sequences containing archaeological material from different periods and cultures. One can therefore predict that deeply stratified sites of considerable archaeological significance may be encountered in the project area.

Another aspect of Lock Haven's geology has probably lessened the significance of many of the archaeological sites to be encountered there. The soils on the valley floor are highly fertile, and have undoubtedly been cultivated ever since the time of initial European settlement. Plowing, coupled with an accelerated rate of erosion resulting from land clearance, has mixed the archaeological materials that were present in the upper levels of the original alluvium. As a result, most sites in agricultural fields may consist solely of a disturbed plow zone containing artifacts from many periods and cultures. In most cases, this plow zone will overlie a clay horizon which was formed prior to human occupation in the area, and is therefore sterile. Occasionally, one may find intact archaeological features, such as burials and hearths, in this otherwise sterile zone; in other cases, the clay may have formed more recently, and may thus contain

archaeological levels. However, these latter situations are the exception rather than the rule. One can therefore anticipate that many sites in the Lock Haven area will no longer be intact, having been disturbed by the plow.

Lock Haven's physiographic situation undoubtedly resulted in a heavy utilization of the area during prehistoric times. The city is situated on the boundary that separates two of Pennsylvania's major physiographic regions (The Allegheny Plateau and The Ridge and Valley Province). In addition, it is located at the confluence of two major drainage systems (the West Branch drainage and the Bald Eagle drainage) and is on the major water route connecting eastern and western Pennsylvania. For these reasons, it is likely that the area was an important node in aboriginal trade and transportation networks. Furthermore, the immediate vicinity was well endowed with wild food resources for the support of human populations, and with excellent soils for the growing of crops. For all of these reasons, aboriginal peoples must frequently have located their camps and villages in the area now occupied by Lock Haven. One should therefore anticipate a long and rich archaeological record.

The expectation is confirmed by the nature and distribution of the previously discovered archaeological remains in and around Lock Haven. As Map 1 indicates, the valley floor in the immediate vicinity of the city exhibits a nearly continuous distribution of

archaeological sites. The only major breaks in this distribution are those areas where construction has destroyed all archaeological remains or has made them inaccessible. The collections of amateur archaeologists in the area demonstrate that material from all major prehistoric periods is present on these sites, with the possible exception of the Paleo-Indian Period.

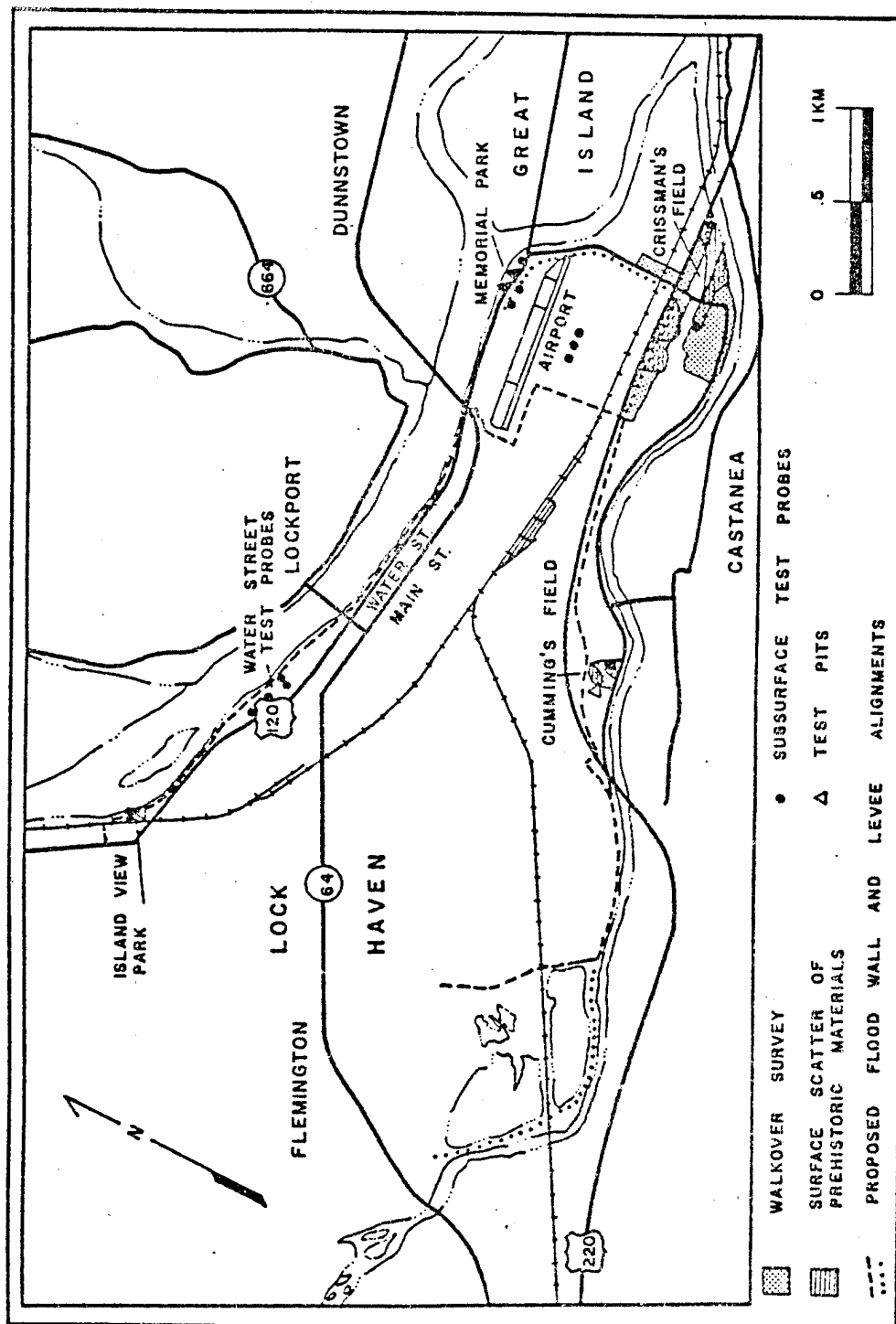
The collections of amateur archaeologists also provide more specific information concerning the nature of the archaeological sites that are likely to be encountered in the project area. Inventories of the projectile point types that are present in these collections indicate that many of the sites from which they derive have several components. For example, the unnumbered site in the field belonging to the Cummings family, located on the north bank of the Bald Eagle Creek just south of Lock Haven (Map 1), has produced material from virtually every prehistoric period. However, many of these multicomponent sites show a clear predominance of material from one or several periods. 36 CN 46 and 36 CN 46A are examples, since both are multicomponent sites that saw especially heavy utilization during the Late Archaic and Transitional Periods. Although fewer in number, single component sites have also been discovered in the Lock Haven vicinity. At present, all such sites date to the Late Woodland phase. The Quiggle Site and the Stewart Site are two important examples.

Further expectations concerning the prehistoric remains in the Lock Haven area follow from the settlement-subsistence systems of the aboriginal inhabitants of the area. During Archaic times (especially the Late Archaic), two basic types of habitation sites were probably occupied--summer base camps located near major rivers and winter hunting camps scattered throughout the region. During Woodland times, and in particular during the Late Woodland phase, two types of habitation sites were again in use. In this case, however, semi-permanent agricultural villages were located near fertile alluvial bottom land, while special purpose hunting camps were again scattered throughout the area. A total of four basic site types may thus be encountered in the Lock Haven area--Archaic hunting camps, Archaic base camps, Woodland hunting camps, and Woodland villages.

Within the specific confines of the project area, the expected occurrence of these various site types can be more narrowly defined. The West Branch Valley is at one of its widest points in the immediate vicinity of Lock Haven, providing an unusually broad expanse of rich alluvial soil. As a result, it is an especially attractive area for farmers, and is a prime locality for Late Woodland villages. Sites of this type must therefore be anticipated within the project area. Because of its strategic location vis-a-vis aboriginal trade and transportation routes, and because of its proximity to a major river, the city of Lock Haven is also

a likely locality for Archaic period base camps. Therefore, these may also be encountered within the project area. It is perhaps less likely that either Archaic or Woodland hunting camps will be present, since one would not expect sites of this type to have been located in such close proximity to base camps or villages. The possibility of their occurrence cannot be eliminated, however.

With the exception of those sites where prehistoric artifacts have previously been discovered, no specific localities within the project area can be singled out a priori as having an especially high probability of yielding archaeological material. The Lock Haven flood control project covers a relatively small, physiographically and ecologically homogeneous area. It is confined to the valley floor, and thus to areas that were originally covered by rich alluvial soils. Furthermore, the proposed wall and levee alignments are in close proximity to watercourses (either Bald Eagle Creek or the West Branch) at all points. Aboriginal sites may thus be encountered virtually anywhere within the project area. However, certain portions of this area have been subject to more intensive historic and modern development than others, and thus have a lower probability of yielding undisturbed prehistoric remains. The section of flood wall and levee that runs along Water Street from the northwest terminus of the project to the point where it turns south to cross Old Town Point (Map 2) is in one such area. The levee(s) in the immediate vicinity of the Hammermill settling basins are in another. The remaining sections



MAP 2

of the project are located primarily in agricultural fields or in the Piper Airport. These latter areas have seen less extensive construction, and thus have a higher probability of yielding sites that have been disturbed only by surficial plowing.

In summary, the Lock Haven Flood control project area can be expected to produce a relatively large number of archaeological sites. Many of these may be shallow and disturbed, but deeply stratified, undisturbed sites may also be present. Both multi-component and single-component sites can be anticipated. Because it was an especially favorable locality for prehistoric settlement, Archaic base camps and Woodland villages may be present within the confines of the project area. The remains of these settlements may be highly disturbed or destroyed in the more highly developed parts of the area. In less developed areas, they may be largely intact.

VI. Archaeological Survey

Methods

In order to confirm the locations, areal extent, and cultural-historical significance of all previously discovered sites, and to test the predictive generalizations of the preceeding section, a three phase archaeological sampling procedure was implemented within the project area. Phase 1 consisted of surface surveys in selected portions of agricultural fields; phase 2 involved placing deep, subsurface test probes in selected areas; and phase 3 entailed test pitting at several sites.

During phase 1, sections of agricultural fields with minimal ground cover were selected for survey purposes. Despite the lateness of the growing season and the height of crops, surface visibility within these selected areas was adequate to allow site limits and surface artifact densities to be evaluated. As sites were encountered, they were plotted on 1:2400 topographic maps. Site boundaries were determined, and a sample of artifactual material was taken from the surface. For this purpose, an area within the boundaries of each site was delineated and vacuumed of all artifactual material. The areas subjected to surface survey are indicated on Map 2.

During phase 2, deep (approx. 1.5m) test probes were excavated in selected vegetation covered areas using a hand operated posthole

digger. This procedure was employed in order to locate sites in areas of low archaeological visibility and to assess the nature and extent of deeply buried prehistoric remains. In addition, the larger and more promising sites discovered during phase 1 were tested in this fashion to reveal their subsurface stratigraphy. The earth from each hole was screened (1/4-inch mesh) as it was removed, and checked for artifactual material. The depths at which such material was encountered, and at which visible soil changes occurred, were recorded. The locations of all deep probes are also indicated on Map 2.

Previous research utilizing deep probe and other subsurface survey techniques has shown that these techniques are useful for the discovery and preliminary assessment of buried or otherwise invisible archaeological sites (Widmer, 1976; Ferguson and Widmer, 1976; Hatch et al., 1978; Stevenson, 1978). However, there are definite limitations associated with the data generated in this manner. First, it must be recognized that assemblage discovery is a probabilistic phenomena, which is dependent upon site density, site size, the volume of the soil sample removed and inspected, and the spacing of testing points. As a result of these factors, the probability of site discovery decreases as site density and site size decrease. Significant components of prehistoric settlement-subsistence systems which were characterized by limited outputs into the archaeological record may be

consistently overlooked in areas where subsurface testing involves small volume samples. Second, these same variables (site density, sample volume, etc.) contribute to additional problems when subsurface tests are used in intra-site analysis since low densities often contribute to imprecise definition of site boundaries (Cable et al., 1978). Third, low artifact densities, small sample sizes, and the non-random distribution of artifacts within the soil matrix restrict the inferences that can be made from subsurface probes on sites with deep cultural deposits. Two closely related problems arise within this context; first, subsurface tests may not reveal all culture bearing strata within a deposit due to fluctuating artifact densities from strata to strata and second, these tests may not accurately reflect strata to strata variation in artifact content.

The limitations of deep probe subsurface testing procedures thus require that inferences based on data retrieved by this technique be of a general and tentative nature only. In order to provide additional verification of subsurface data, a more extensive subsurface testing procedure (test pitting) was employed at what appeared to be the most important sites. This procedure involved placing test pits of various sizes (1 m. by 1 m., 1 m. by 1.5 m., and 1 m. by 2 m.) on sites believed to exhibit intact stratigraphic sequences and/or to have conditions suitable for feature preservation (Map 2). In several cases, these test pits

placed directly over the previously excavated deep probes in order to verify results and to provide larger samples of artifactual material. In other cases, test pits were located where surface scatters of artifactual material indicated the presence of a site. In two cases, deep posthole probes were excavated in the bottoms of completed test pits in an attempt to discover even more deeply buried occupation levels.

A total of eight archaeological sites were located and investigated during the course of these three phases. The location, artifact content, and probable age and function of each of these sites are discussed in the following section.

Archaeological Resources in the Project Area

Memorial Park Site (unnumbered)

The Memorial Park Site is situated on the southern bank of the Susquehanna River opposite the western most point of Great Island. The site extends into Memorial Park on the north side of Water Street and into the Piper Aircraft Corporation airport on the south side of Water Street. In this locality, frequent floods have resulted in rapid sedimentation. As a result, even the most recent prehistoric materials are quite deeply buried, and are not visible on the ground surface. However, Edwin Long reported that such materials had been encountered during the

construction of the pavillion that stands in Memorial Park. In order to determine the areal extent, material culture content, and internal stratigraphy of this site, 5 deep test probes (3 in Memorial Park and 2 in Piper Airport) and 2 test pits were excavated in the vicinity. Test Probes 1, 2, and 3 were located within Memorial Park at approximately equal intervals along its east-west axis. Test Probes 4 and 5 were placed approximately 25 m. south of Water Street and approximately 200 m. and 250 m. from the bridge leading to Great Island (Map 2). Artifactual materials were encountered at varying depths in all 5 probes (Figure 1). However, artifact densities were highest in Probes 2 and 3, in the western end of Memorial Park. A 1 m. by 1.5 m. test pit and a 1 m. by 2 m. test pit were excavated in this area, located directly over these two test probes (Figures 2 and 3). The results of these excavations provide a general picture of the depositional and occupational episodes that have occurred at the Memorial Park Site.

The uppermost stratum consists of interbedded water-laid silty loam and sand lenses. Historic materials such as nails and glazed pottery were present, and attest to the recent origin of this alluvium. It has probably been deposited during the period of time that has elapsed since the area was last plowed. On the north side of Water Street, this deposit probably represents the approximately 70 years that have elapsed since the Memorial

MEMORIAL PARK SITE TEST PROBES

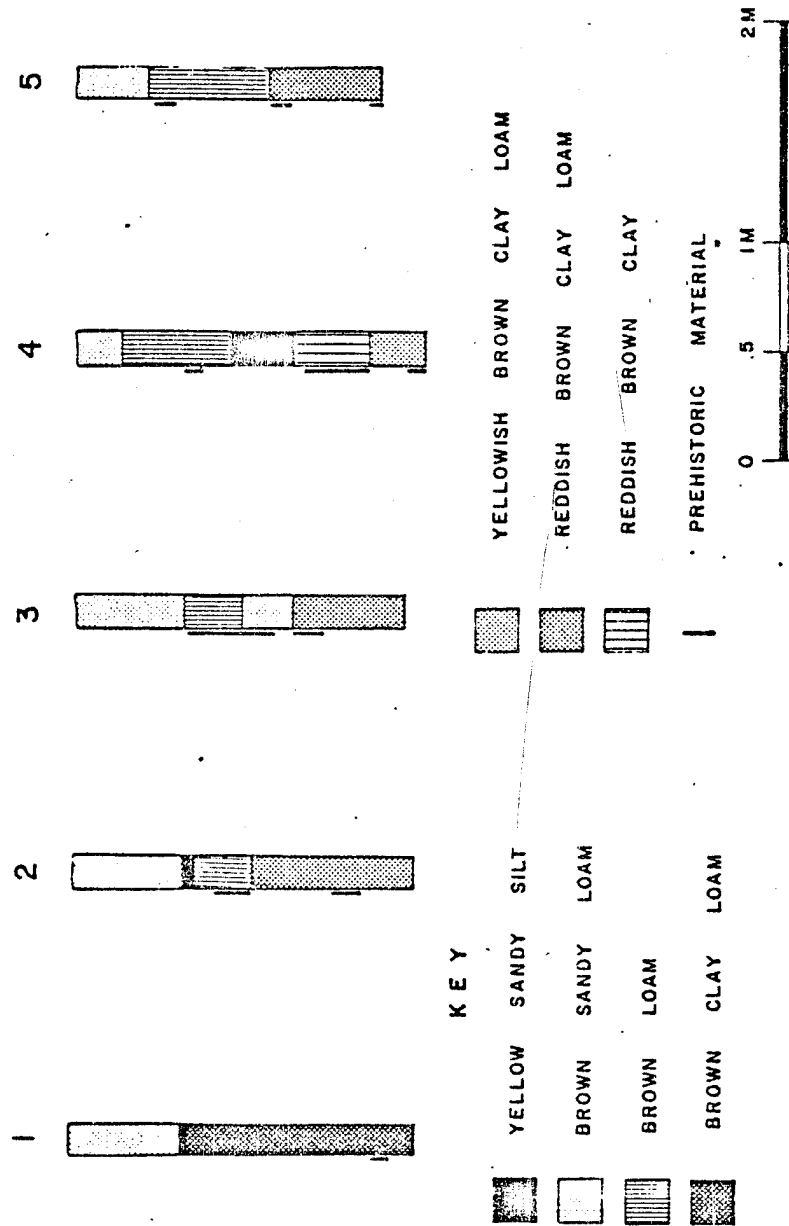


FIGURE 1

MEMORIAL PARK SITE

TEST PIT 1 (WEST PROFILE)

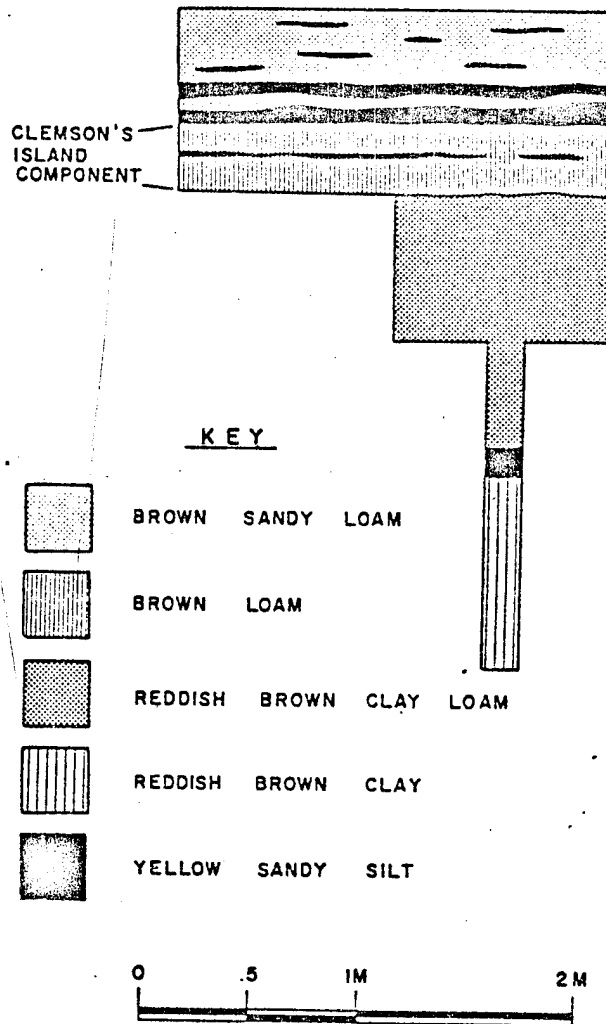
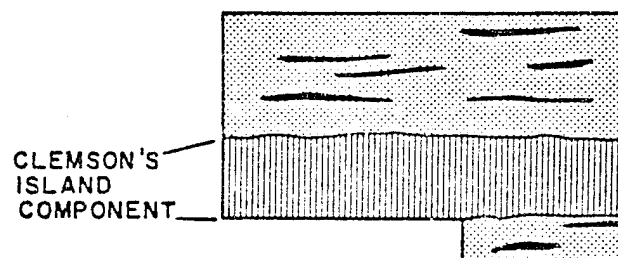


FIGURE 2

MEMORIAL PARK SITE

TEST PIT 2 (SOUTH PROFILE)



KEY



BROWN SANDY LOAM



BROWN LOAM



YELLOW SANDY SILT



FIGURE 3

Park was acquired by the VFW. On the southern side of Water Street, the alluvium is thinner, which is consistent with the more recent construction of Piper Airport. At a depth of approximately 50 cm., a thick lens of water-laid sand marks the base of this uppermost level. Directly below the sand is a homogeneous brown loam which appears to be a buried plow zone. Mixed artifactual materials, including highly eroded Clemson's Island sherds, lithic debitage, and historic materials were encountered in this level. The base of the buried plow zone was reached at depths of 80 to 90 cm., where the soil matrix changes to a redish brown water-laid clay loam. Clemson's Island sherds continue to be present, but are larger and significantly less eroded. No admixture of historic materials was observed. At approximately 90 to 100 cm., the soil matrix again changed, becoming lighter in color. An intact post mold was discovered in Test Pit 2 at the interface caused by this soil change. The presence of water-laid deposits, non-weathered sherds, and an intact feature indicate that this lower portion of the Clemson's Island component is undisturbed.

Below the 90 to 100 cm. soil change, ceramic materials were no longer encountered. The clay content of the matrix increased substantially, and artifact densities were light. A grinding stone at 120 cm. in Test Pit 1, and firecracked rock and lithic debitage in the lower portions of all 5 test probes, indicate

pre-ceramic occupations of unknown phase affiliation. These occupations are far below any evidence of plowing, and thus are almost certainly intact.

These data indicate that the Memorial Park Site is a multi-component, deeply stratified site. The uppermost pre-historic component dates to the Late Woodland phase, and represents an occupation by Clemson's Island people. This component was encountered in 4 out of the 5 test probes and in both test pits. It is thus of relatively broad areal extent. In addition, relatively high artifact densities were observed where this component occurred. These features suggest that a village site is present. Although its uppermost portion has been disturbed by agricultural activities, its lower portion appears to be intact. There is at least one more component below this one, and others may be still more deeply buried. Subsurface testing to greater depths will be required to locate and investigate these deeper strata.

Island View Park Site

Island View Park is located on the southern bank of the West Branch at the northwestern terminus of the project area. Karen Rocky reported that archaeological remains had been discovered during the construction of a parking lot immediately to the east of the Park, and two test probes were excavated

within the park itself to determine whether the site in question extended into that area. Test Probe 1 was located on the second alluvial terrace towards the southern side of the park. Test Probe 2 was located on the first alluvial terrace, approximately 10 m. from the river. Test Probe 2 was sterile, but Test Probe 1 confirmed the presence of a site. A test pit was subsequently excavated at a point approximately 10 m. north-east of this probe. Despite their proximity, Test Probe 1 and the test pit encountered rather different stratigraphic sequences and archaeological materials. They will therefore be discussed separately.

The upper 48 cm. of Test Probe 1 (Figure 4) revealed a dark loam containing considerable historic material. At the base of this deposit, the soil matrix changed to a lighter colored, brown, water-laid loam within which no historic materials were observed. This second level continued to a depth of 64 cm., and produced prehistoric artifacts in the form of shell-tempered pottery sherds and lithic debitage. At 64 cm. the soil matrix again changed, and became a still lighter colored orange clay loam. This continued to the base of the probe at 150 cm., and produced no artifactual materials.

In the test pit (Figure 5), 18 cm. of dark brown loam was followed by a mottled orange and brown clay loam. Both of these levels show evidence of extensive disturbance. Mixed historic

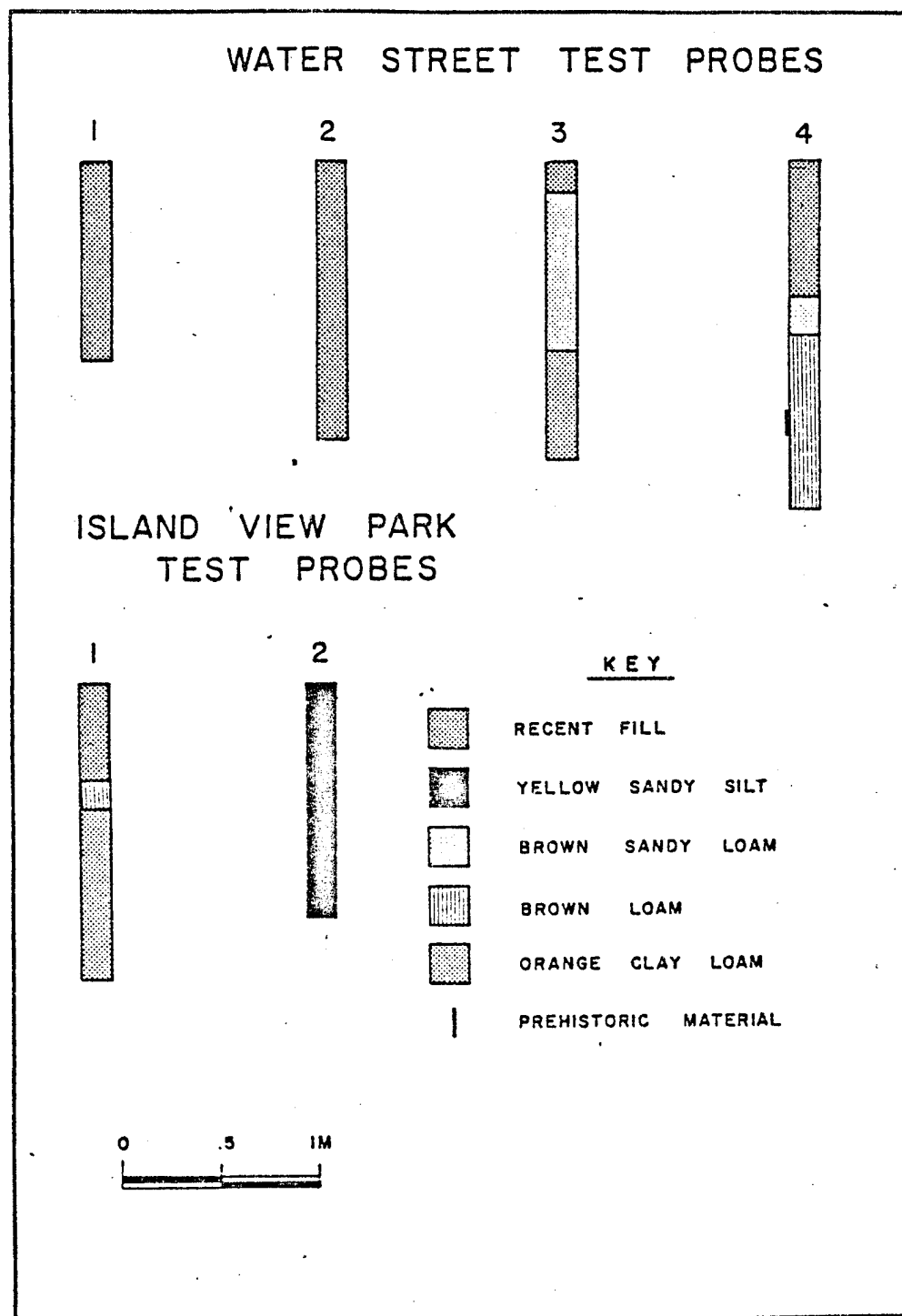
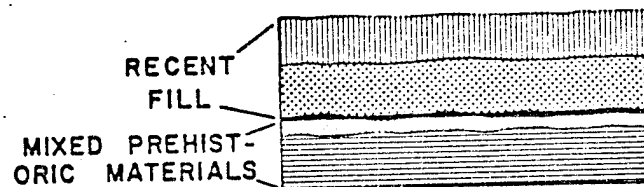


FIGURE 4

ISLAND VIEW PARK SITE

TEST PIT 1



KEY

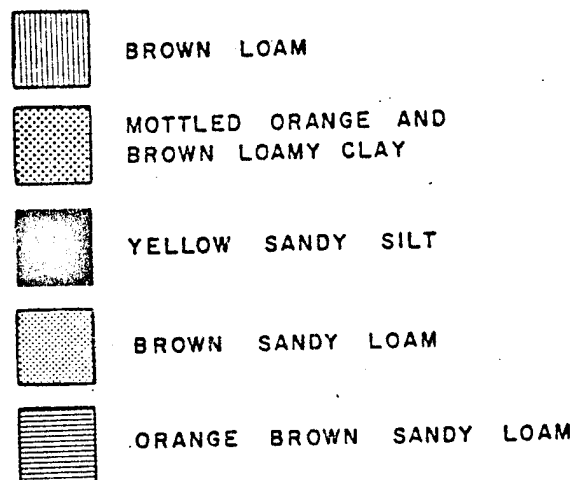


FIGURE 5

and prehistoric artifacts were present, including glass, nails, glazed ceramics, a shell-tempered prehistoric sherd, and projectile points of Late Woodland and Late Archaic date. At 40 cm. an undisturbed, water-laid sand lens was encountered, and beneath it a water-laid, brown loam was present. Historic materials were absent below the sand lens, and the concentration of prehistoric materials increased noticeably. Although Clemson's Island ceramics were present, they occurred in much lower frequencies than at the Memorial Park Site. Lithic debitage concentrations, however, were quite high. Several diagnostic projectile points were also recovered from this level, and included both Late Archaic and Transitional forms. Rhyolite debitage was present, but only in small quantities. At 47 cm. the loam became somewhat lighter in color, and artifact densities dropped off slightly. Ceramics were no longer present, and the frequencies of rhyolite debitage increased markedly. Similar materials were encountered to a depth of 70 cm., at which point the excavation was terminated.

The differences between the stratigraphic sequences of Test Probe 1 and Test Pit 1 present problems of interpretation. Test Probe 1 revealed clear evidence of a Susquehannock occupation at the site, since shell-tempered ceramics are diagnostic of this culture in central Pennsylvania. No other cultural components were discovered. The test pit, however, produced no evidence of

an intact Susquehannock component, despite the fact that it was located no more than 10 m. from the probe. In addition, the test pit produced evidence of other occupations at the site. The uppermost intact level seems to represent a mixture of materials from Late Archaic through Woodland times.

Although no stratigraphic separation of these materials was apparent, more highly controlled excavation techniques might reveal that several intact components are present within this level. The level immediately below is probably of Late Archaic and Transitional age. Again, several components may be present.

These differences are probably a result of the activities associated with the construction of the parking lot immediately to the east of Island View Park. The uppermost, disturbed levels in the test pit were probably produced by stripping and filling operations. The same operations may have removed the upper levels of the natural alluvium in this area, while leaving the older, more deeply buried strata intact. The absence of a Susquehannock component within the test pit sequence is probably explained by these activities. The test probe, however, was located further from the parking lot, and does not exhibit evidence of the extensive disturbance so obvious in the test pit profile. The absence of the earlier occupational episodes within the test probe sequence may be explained by the statistical vagaries of small sample, deep probe testing. Alternatively, it may

indicate that these levels do not extend so far to the west, or that they are so deeply buried at this locality as to be beyond the range of the deep probe methodology employed during this investigation.

If these inferences are correct, they indicate that the Island View Site is deeply stratified and contains several components. In the undisturbed sections of the site, a Susquehannock component is present in the upper levels. However, present evidence is insufficient to evaluate the nature of this Susquehannock occupation. Below this level are other components representing Late Woodland, Transitional, and Late Archaic occupations. At present, it is not possible to determine whether these materials have been mixed during the accumulation of the alluvium within which they were deposited, or whether separate, intact components are present.

Water Street Site (unnumbered)

Four deep test probes were located between Water Street and the West Branch of the Susquehanna River, approximately half way between the Island View Park and the Jay Street bridge leading from Lock Haven to Lockport. As expected, all of these test probes encountered highly disturbed deposits associated with the extensive construction activities that have occurred in this area (Figure 4). However, 2 of the 4 probes also revealed that

natural, undisturbed alluvium was present beneath recent fill. In Test Probe 4, prehistoric artifacts were discovered within this alluvium.

The upper 87 cm. of Test Probe 4 consisted of disturbed, recently deposited fill. Underlying this fill was a layer of water-laid brown sandy loam, which continued to a depth of approximately 100 cm. At this point the matrix changed to a finer textured, water-laid brown loam. Two flakes were discovered within this lower member at a depth of 128 cm., indicating that a site might be present at this locality. In order to confirm its presence and to determine its age and probable function, more extensive testing will be required. The results of these test probes indicate, however, that intact archaeological remains may be present even in the most highly disturbed parts of the project area.

Cummings' Field Site 1 (unnumbered)

Edwin Long reported finding artifacts from many different prehistoric periods in a field belonging to the Cummings family, located adjacent to the Bald Eagle Creek directly south of Lock Haven (Map 2). To further document the nature of these remains, a surface survey was conducted in this field, and revealed that two areas of especially high artifact density were present. These two areas have been designated as Cummings' Field Sites 1 and 2.

Cummings' Field Site 1 is located in the southeastern corner of the field (Map 2). After determining the approximate boundaries of the site (Map 2), an area 25 m. by 50 m. was vacuumed of artifactual material. In addition, a deep test probe (Figure 6) was excavated in the southeastern corner of the site. The surface sample produced only one temporally diagnostic artifact--a grit tempered pottery sherd. A Late Woodland occupation is probably represented by this artifact. In addition, a large sample of lithic debitage of varying raw materials and several temporally non-diagnostic bifaces were recovered. These materials probably derive from many occupations throughout the prehistoric period. The deep probe revealed that a compact, orange-brown clay loam underlies a 20 cm. plow zone. No artifacts were discovered in the plow zone, due almost certainly to the statistical vagaries of deep probe sampling. At a depth of 45 cm. a single flake was discovered in the hard orange-brown clay loam. The presence of this flake indicates that intact components may be present in the deeper, undisturbed levels of this site. However, it is impossible to evaluate these components with the data presently available.

Cummings' Field Site 1 appears to be a multicomponent site which has been at least partially disturbed by agricultural activities. Repeated plowing and soil erosion have destroyed the upper levels of the site, resulting in an accumulation of mixed

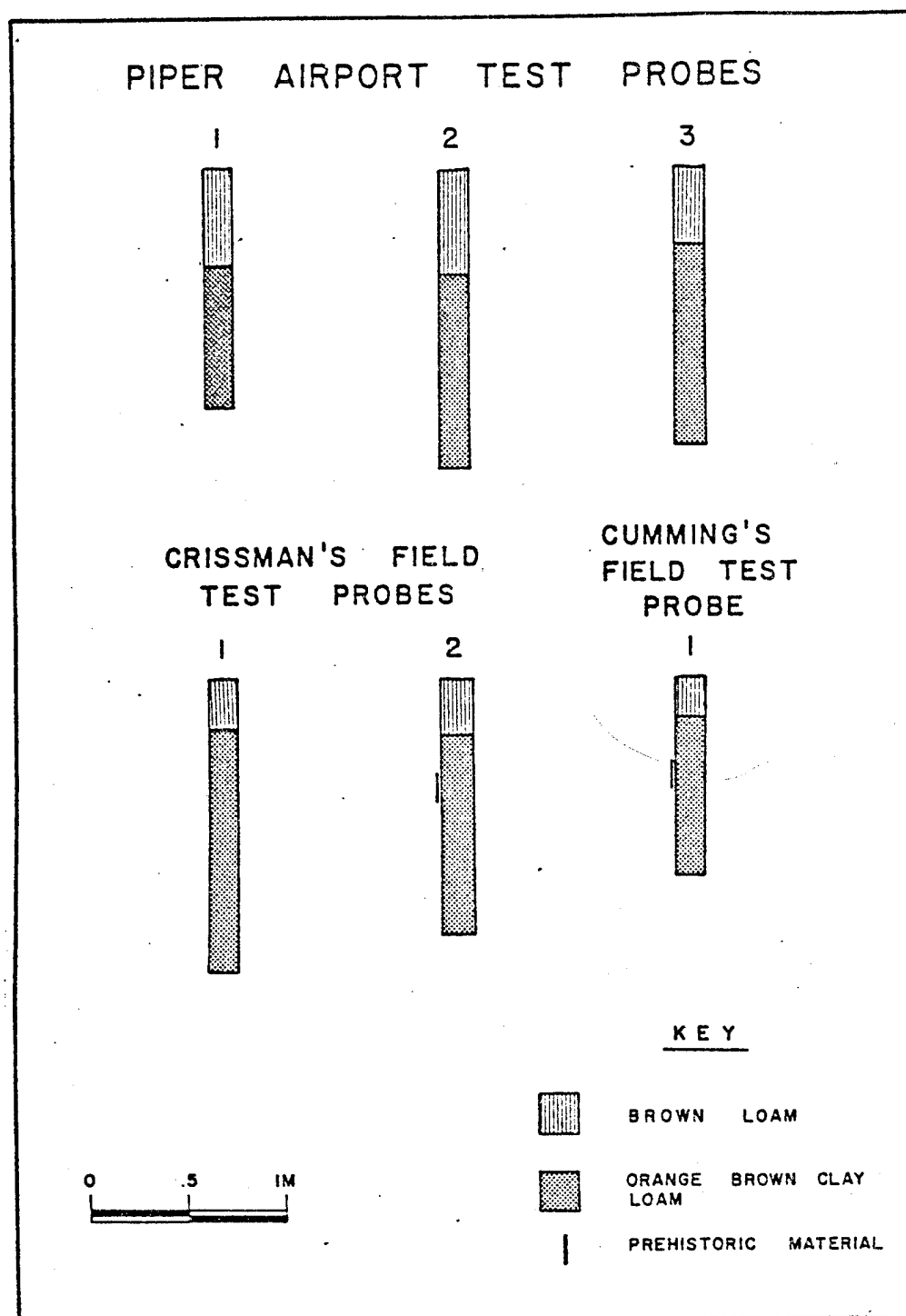


FIGURE 6

prehistoric material in the plow zone. The more deeply buried components of the site may still be intact, however, and features may be preserved at the interface between the plow zone and the underlying clay-loam. More extensive testing is required to confirm these hypotheses.

Cummings' Field Site 2 (unnumbered)

Cummings' Field Site 2 consists of a lithic scatter in the northwest corner of the same field. It is situated on top of a small rise, and is approximately 150 m. from Bald Eagle Creek. The site extends beyond the confines of the field in a north-westerly direction, and the site boundaries in that direction have not yet been determined. Within the field, an area approximately 25 m. by 50 m. was vacuumed of artifactual material. In addition, a 1 m. by 1 m. test pit was located outside of the field, near its northwest corner.

The surface sample produced varied lithic debitage, but no ceramic material. A single temporally diagnostic projectile point was recovered, dating to the Middle Archaic phase. The test pit again revealed a 20 cm. plow zone overlying a compact, orange-brown clay loam (Figure 7). Lithic debitage and non-diagnostic biface fragments were recovered from this level. Although the excavation was terminated at the plow zone--clay interface, a deep probe was located in the bottom of the test pit. This probe

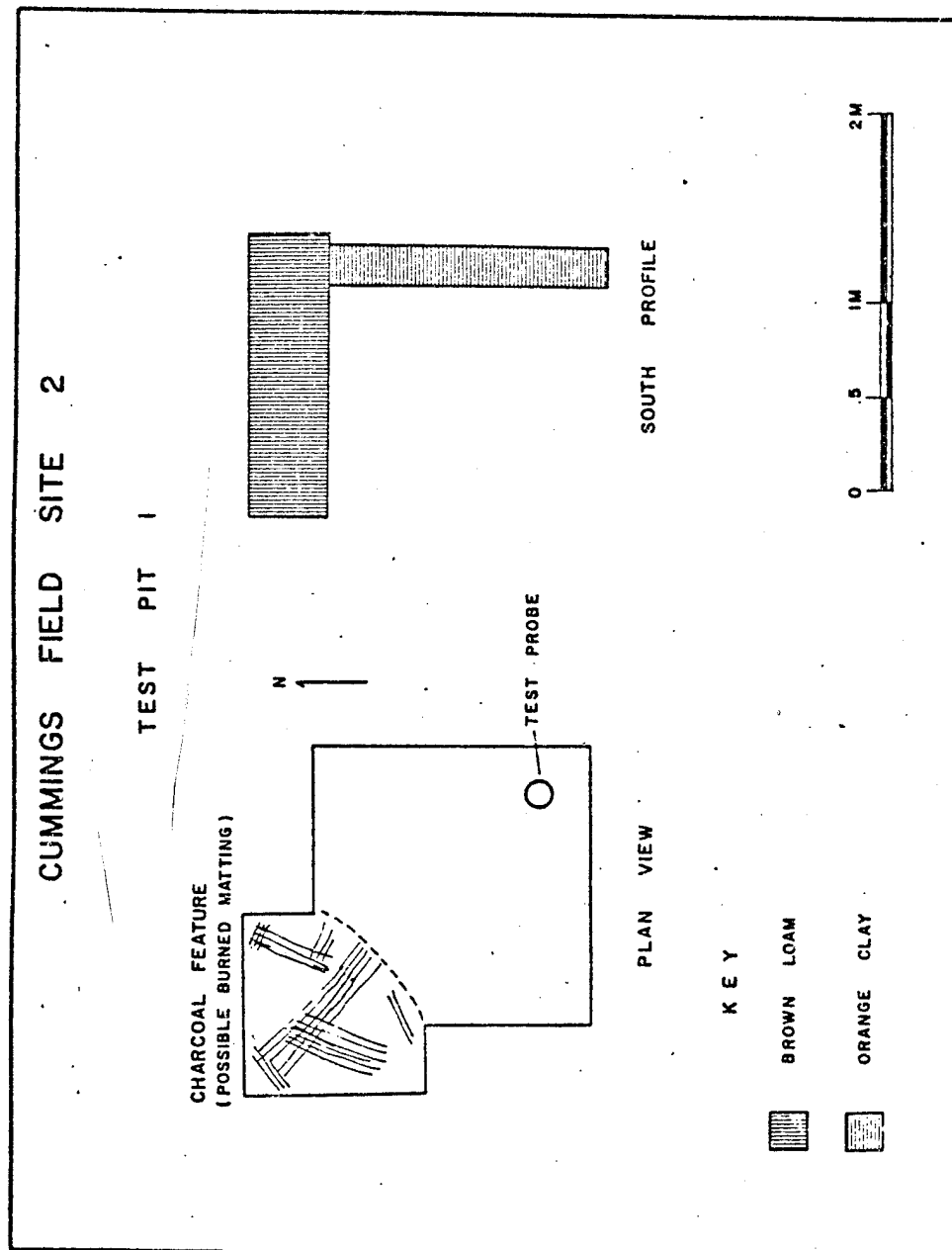


FIGURE 7

revealed no further soil changes, and produced no artifactual material.

In the northwestern corner of the test pit, at the plow zone--clay interface, a concentration of charcoal was observed; the excavation was extended laterally to further expose this feature. A criss-cross pattern of burned grass fibers and twigs which appeared to be the remains of burned matting was revealed. If this interpretation is correct, feature preservation at this site is probably quite good.

Cummings' Field Site 2 seems to be equivalent in all respects to Site 1. Although several components are undoubtedly present, they have been collapsed and disturbed by plowing and erosion. However, intact features probably exist at the interface between the plow zone and the underlying clay-loam. Further investigations will be required to locate and interpret these features.

Crissman's Field Site 1 (36 CN 46 and 36 CN 46a)

The site files housed in the office of the state archaeologist indicate that two sites--36 CN 46 and an unnumbered site which, for the purposes of this report will be labeled 36 CN 46a, are present in a large agricultural field owned by Mr. Crissman. Surface surveys were conducted within various portions of this field (Map 2), and indicated that both of these sites are actually part of a single large lithic scatter

which extends from the bank of Bald Eagle Creek throughout a large portion of the eastern half of Crissman's field. The lithic scatter is heaviest immediately adjacent to Bald Eagle Creek, and a 25 m. by 75 m. area within this portion of the site was vacuumed of all artifactual material. Two deep probes were also placed within its boundaries, one at its easternmost terminus, and the other at its westernmost terminus.

No ceramics were recovered from this site, but projectile points and bifacial preforms were present in relatively high frequencies. Diagnostic types included 2 Transitional points and 1 Late Woodland point. Test Probe 1, at the western boundary of the lithic scatter, revealed a 25 cm. plow zone overlying orange-brown clay-loam (Figure 6). Due to the small volume of the sample removed by this technique, no artifactual materials were encountered. Test Probe 2 revealed the same stratigraphic sequence, but in this case prehistoric materials were encountered at a depth of 46 to 62 cm. below the surface in the orange-brown clay-loam matrix (Figure 6). Although lithic debitage only was recovered, it is predominantly of rhyolite. A Transitional component thus appears to be represented.

Crissman's Field Site 1 is a multicomponent site showing many of the characteristics of the two Cummings' Field Sites. As a result of agricultural activities and surface erosion, prehistoric materials have been concentrated in a disturbed plow

zone. More deeply buried components may be present as well, and are probably intact. In addition, features may be present at the base of the plow zone.

Crissman's Field Sites 2 and 3 (unnumbered)

During the course of the surface survey in Crissman's Field, two previously unreported sites were discovered. Both are relatively small, sparse lithic scatters, and both are located at the northern boundary of the field near U.S. Route 220 (Map 2). The surfaces of each site were vacuumed, and produced small samples of lithic debitage. The non-diagnostic nature of these samples precludes any reliable interpretation, but the small size and low artifact densities exhibited by these sites suggest that they may represent temporarily occupied hunting camps. No subsurface testing procedures were employed at either site; however, they probably exhibit stratigraphic profiles much like those of Cummings' Field Sites 1 & 2 and by Crissman's Field Site 1.

VII. National Register and Project Impact Considerations

The National Historic Preservation Act of 1966 (Public Law 89-665) specifies that to be eligible for nomination to the National Register of Historic Places, a site, building, structure, or object must have significance in American history, architecture, archaeology, or culture. Furthermore, significance is defined to

include places or objects that have yielded or are likely to yield information important in prehistory or history at a local, regional, or national level. The Principal Investigator understands that the successful nomination of any site to the National Register is conditioned by the research problems appropriate for the area and the site's ability to answer them in a problem solving framework. Due to the preliminary nature of this report, the specific research problems are not detailed, nor are the specific aspects of each site with regard to them. Instead, general considerations are presented. The research proposed for Phase II in the following section is structured to investigate those aspects of each site suitable for answering several questions appropriate to each phase represented. With this additional information National Register eligibility can be more clearly ascertained. On the basis of existing evidence, however, at least one site investigated during this reconnaissance appears eligible for nomination to the national Register, and several more may prove to be eligible upon further investigation.

Memorial Park Site

In several respects this site appears to meet National Register criteria. First, it is a deeply stratified site, containing components representing several of the prehistoric cultures that occupied the West Branch Valley in prehistoric

times. In central Pennsylvania, the details of specific cultural historical sequences are still only partially understood, although the general outlines have been defined (Turnbaugh, 1977; Kent et al., 1971). The Memorial Site may thus provide additional information concerning culture history and cultural evolution in the area. Second, the Memorial Park Site contains a rich and largely intact Clemson's Island occupational horizon. Major questions remain concerning the economy and settlement patterns of these people (Turnbaugh, 1977), and the remains they left behind at the Memorial Park Site may help to answer these questions.

The impact of the Lock Haven Flood Control Project on this site is directly contingent upon which of the proposed flood wall and levee alignments is finally selected. If the outer alignment (which encloses the Piper Airport runways) is built, a major negative impact to the Memorial Park Site will occur, since a section of the flood wall that follows Water Street will pass through the middle of the site. The deep excavations that will be required in the construction of foundations for this wall will destroy portions of the Clemson's Island component and of several of the more deeply buried components. It should be noted that this impact will be substantially more severe than that which may have occurred during the construction of Water Street, which shows every indication of having rather shallow foundations.

Since the prehistoric materials in this site are protected by a thick layer of recent alluvium, it is possible that these materials were not affected by the construction of Water Street and are presently intact.

If the outer alignment is selected, the negative impacts of flood wall construction will require mitigation through appropriate archaeological excavations. Alternatively, negative impacts to the Memorial Park Site can possibly be avoided by selecting the inner alignment or an alternate outer alignment which does not pass through the site.

Island View Park Site

The Island View Park Site is eligible for nomination to the National Register of Historic Places on many of the same grounds as the Memorial Park Site. It is deeply stratified, and may thus contribute to a further understanding of local culture history. In addition, it contains a Susquehannock occupational level. Only two major Susquehannock sites are presently known in central Pennsylvania, and both date to the earlier phases of Susquehannock history (Turnbaugh, 1977). The later periods of this people's occupation in central Pennsylvania are almost completely unknown, as are their interactions with the Shenk's Ferry people who lived in the West Branch Valley at the time of their arrival. Data from the

Island View Park Site may shed further light on these issues.

However, one aspect of the Island View Site requires further investigation during a Phase II archaeological survey before unqualified National Register status can be established. At present, the site is known to exist only within the narrow confines of Island View Park. Originally, it undoubtedly extended into areas that are now covered by the Pennsylvania Railroad, by Water Street, and by neighboring parking lots. The portion that remains is thus likely to be a small remnant of a once much larger site. Whether the remaining portion is of sufficient size to allow reliable temporal and functional interpretations cannot be determined from the data that is presently available. If it is not, the Island View Park Site cannot be considered eligible for nomination to the National Register of Historic Places.

The northwestern terminus of the flood wall that follows Water Street will pass through Island View Park, and will have an impact similar to that which is anticipated in the Memorial Park. If it is determined through subsequent research that the Island View Park Site is eligible for nomination to the National Register, the negative impacts of flood wall construction will require mitigation through archaeological excavation.

Crissman's Field Site 1

As indicated above, this site has been extensively disturbed by agricultural activities coupled with soil erosion. In many places no intact archaeological components may remain, while in others, the more deeply buried strata appear to be intact. If this conclusion is correct, National Register Eligibility may be confirmed, since intact camp sites dating to Archaic and Transitional times have rarely been investigated in central Pennsylvania. Important information concerning the lifeways of these earlier inhabitants of the region may thus be provided by this site. However, the proposed flood wall and levee alignments do not pass through this site, and no negative impacts from project construction are anticipated.

Crissman's Field Sites 2 and 3

At present, these sites do not appear to meet the criteria for nomination to the National Register. They have low artifact densities, and in all probably have been completely disturbed by agricultural activities. However, both sites are located directly on the outer flood wall and levee alignment where it follows U.S. Route 220. In this section, an impervious blanket will be added to the existing highway embankment, and the inspection trench that will be excavated at the base of this blanket will destroy portions of these sites. If subsequent investigations (i.e. Phase

II archaeological survey) confirm the absence of intact occupational horizons or archaeological features at these sites, further mitigation will not be required, and the partial site destruction required by project construction will be acceptable. If the inner alignment is selected, no negative impact to these sites is anticipated.

Cumming's Field Sites 1 and 2

Like Crissman's Field Site 1, these sites have been extensively disturbed by agricultural activities, and can be considered for nomination to the National Register of Historic Places only if the existence of intact features and/or occupational levels can be demonstrated. Present data suggest that the former may exist at Site 2 and the latter at Site 1. However, these conclusions require further confirmation during Phase II archaeological research.

Cummings' Field Site 1 does not lie in the path of the proposed construction, and no negative impacts are anticipated. Site 2, however, will be impacted by the inspection trench at the base of the impervious blanket that will be added to the Route 220 embankment in this section of the project. If National Register criteria are met by this site, appropriate mitigation procedures in the form of archaeological excavation will be required.

Water Street Site

Since only two flakes were recovered from this site, it cannot at present be evaluated in terms of National Register Criteria. However, the test probe which produced this material is directly on the levee alignment which runs parallel to and north of Water Street. Phase II investigations should indicate whether National Register Criteria are met, and whether mitigation of impact is required.

VIII. A Preliminary Proposal for an Intensive, Phase II Archaeological Survey

It is the professional opinion of the Principal Investigator that an intensive Phase II archaeological survey of the project area is required to comply with current federal preservation legislation. As outlined in "Scope of Work, Cultural Resources Reconnaissance" by the Baltimore District, Corps of Engineers and in 36 CFR 66, Appendix B, the primary objectives of a Phase I reconnaissance of the sort reported here are to provide general predictive models concerning the nature of archaeological resources in the project area and to test these models with a limited, non-comprehensive archaeological survey. Because of its limited and preliminary nature, such research cannot provide an exhaustive inventory of the prehistoric materials within the

project area, nor can it fully evaluate the significance of these materials. Thus, the 8 sites discovered during the present survey do not constitute a complete inventory of the archaeological resources that may be present within the project area. To comply with current federal preservation legislation (The National Historic Preservation Act of 1966, Section 106; Executive Order 11593; 36 CFR 66; and 36 CFR 800), all potentially eligible sites that will be impacted by a federally assisted or licensed project must be identified and evaluated prior to project implementation. To comply with this legislation, an intensive archaeological survey, as described in 36 CFR 66, Appendix B, must be conducted in the Lock Haven project area. A preliminary proposal and budget estimate for this Phase II, intensive survey are provided below, and meet federal standards concerning the conduct of such research (i.e., 36 CFR 66, Appendix B). If implemented, the research described will reveal any sites in the project area that remain undiscovered, and will provide sufficient data to evaluate these newly discovered sites, as well as those sites discovered during the present survey which require further investigation to determine eligibility (see pp. 55-62).

The following research program is therefore recommended.

- 1) A complete surface survey of all exposed ground surfaces along the entire flood wall and levee alignment and associated construction facilities should be conducted

to locate all exposed archaeological sites. The surfaces of these sites should then be vacuumed of all artifactual material to provide a maximum sample for analytical purposes.

- 2) Systematic, deep-probe testing should be conducted along the entire alignment to locate buried archaeological sites. Probes should be located at 50 m. intervals, and should be excavated with a power augur capable of providing larger samples from deeper levels than is possible with the hand operated equipment employed during the reconnaissance reported here. The depths at which soil changes and artifactual material are encountered should be recorded.
- 3) A more extensive program of test pitting should then be instituted to assess the archaeological significance of all sites located during the execution of steps "1" and "2".
- 4) In consultation with Corps of Engineer planners and geologists, serious consideration should be given to the forecasting of deterioration of archaeological sites outside the immediate project corridor. Such deterioration, when clearly aggravated by the finished flood control project, is the responsibility of the Corps. It may therefore be desirable to carry out

mitigating measures during Phase III in anticipation of such deterioration.

A preliminary budget covering the costs of this research program is provided in Table 1. With the completion of this Phase II survey, it should be possible to evaluate all the archaeological resources within the project area in terms of National Register Criteria. Appropriate procedures for Phase III research, which involves the mitigation of negative impacts to sites eligible to be nominated to the National Register of Historic Places, can then be proposed. This third and final phase of research will in all probability be required in the study area, and should be anticipated when the different stages of project construction are scheduled.

TABLE 1: A Preliminary Budget Estimate
for Phase II Archaeological Research

Costs cover discovery and evaluation of archaeological sites in areas of both primary and secondary impact. Costs cover the longest combination of flood wall and levee alignments: i.e., that combination which encloses both the Hammermill settling basins and the Piper Airport runways. Costs are based on current salary rates and estimates thereof.

Salaries

1.	Principal Investigator - approximately 30% for 3 months.	\$ 1870.00
2.	Surface survey and artifact collection in areas of primary and secondary project impact:	
	a. Field Director: \$60.00/day, 15 days	900.00
	b. Research Assistant: \$40.00/day, 15 days	600.00
3.	Vehicle mounted power augur testing (approximately 200 tests):	
	a. Field Director: \$60.00/day, 30 days	1800.00
	b. Research Assistant: \$40.00/day, 30 days	1200.00
	c. Equipment operator: \$80.00/day (estimate), 30 days	2400.00
4.	Test pitting (approximately 30 tests)	
	a. Field Director: \$60.00/day, 45 days	2700.00
	b. Research Assistant: \$40.00/day, 45 days	1800.00
	c. Research Assistant: \$40.00/day, 45 days	1800.00
5.	Secretarial - \$5.00/hour, 24 hours	120.00
6.	Laboratory analysis	
	Research Assistant: \$40.00/day, 15 days	600.00
7.	Report Preparation:	
	Field Director: \$60.00/day, 15 days	900.00
TOTAL SALARIES AND WAGES		\$16690.00

Fringe Benefits

Computed at a fixed rate of 18% applicable to all direct salaries and wages. If this budget is funded, the rate quoted shall be subject to any superseding rate in effect at the time of funding, which rate shall then become a firm fixed rate for the period of funding.

\$ 3004.00

Supplies

Costs include all expendable supplies such as collection bags, tags, markers, etc. as well as film, film developing and maps. Costs also include paper, xeroxing, photoduplication, etc. for report preparation.

\$ 550.00

Equipment Rental

Vehicle mounted power augur: \$50.00/day
(estimated).

\$ 1500.00

Travel and Field Expenses

Travel expenses (costs based on mileage charge of \$0.15/mile)

Costs cover 90 round trips to the project area (100 miles each).

\$ 1350.00

Field Expenses (costs include \$2.50/man-day for food)

Costs cover 255 field expense days

638.00

TOTAL DIRECT COSTS

\$23732.00

Indirect Costs

61% of on-campus salaries and wages (\$16690.00)

\$10181.00

TOTAL ESTIMATED PRELIMINARY BUDGET

\$33913.00

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X. Appendix: Artifact Inventories

LITHICS					CERAMICS		
Biface	Other	Shatter	Tools/ Preforms	Grit	Shell	Fiber	
Thinning Flakes	Flakes			Tempered	Tempered	Tempered	
MEMORIAL PARK SITE							
Test Pit 1							
40-48 cm	2				1		
48-58 cm	11	3	2	1	2		
58-68 cm	47	6	27		64		
68-78 cm	32	13	27		51		
78-88 cm	21	4	8		9		
Test Pit 2							
35-45 cm	16	2	4	1			
45-55 cm	25	4	13	2	23	1	
55-65 cm	103	35	18	5	105		
65-70 cm	51	13	11	2	27		
73-74 cm	4				8		
Test Probe 1							
140-160 cm	4						
Test Probe 2							
74-83 cm	4		3		3		
Test Probe 3							
55-93 cm	7	1	6	1	11		
100-115 cm	1				2		
Test Probe 4							
53-155 cm	1		3		1		
Test Probe 5							
40-88 cm	5	2	2		1		
140-142 cm				1			

LITHICS				CERAMICS			
Biface	Other	Tools/	Grit	Shell	Fiber		
Thinning	Flakes	Shatter	Preforms	Tempered	Tempered		
Flakes	Flakes	Flakes	Preforms	Tempered	Tempered		
ISLAND VIEW PARK SITE							
Test Pit 1							
0-18 cm	3	1	1				
18-40 cm	12	2	2	1			
40-47 cm	100	33	5	12			
47-60 cm	72	11	1				
60-70 cm	22	4	1				
Test Probe 1	6			6			
48-64 cm							
WATER STREET SITE							
Test Probe 4							
121-175 cm			2				
CUMMINGS' FIELD SITE 1							
Surface	47	11	15	8	1		
Test Probe 1	1						
47 cm							
CUMMINGS' FIELD SITE 2							
Surface	27	11	21	2			
Test Pit 1	10	5	4	1			
0-20 cm							
CRISSMAN'S FIELD SITE 1							
Surface	126	63	48	34			
Test Probe 2	6						
26-100 cm							

LITHICS					CERAMICS			
	Biface	Thinning	Other	Tools/ Preforms	Grit Tempered	Shell Tempered	Fiber Tempered	
	Flakes	Flakes	Shatter					
<u>CRISSMAN'S FIELD SITE 2</u>								
Surface	7	4	10	3				
<u>CRISSMAN'S FIELD SITE 3</u>								
Surface	2							

II. HISTORICAL RESOURCES RECONNAISSANCE

The Lock Haven
Flood Protection Project
Clinton County, Pennsylvania

Thomas R. Deans
Principal Investigator
and
Consultant to
Erdman, Anthony, Associates

December 1979

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I. Methodology

The preparation of this report on the cultural resources of the Lock Haven flood protection area involved a literature, document, and newspaper research, interview with state and local historians, residents, and a field survey of the project environment. Specifically, the cultural investigator examined census records at the William Penn Museum in Harrisburg, interviewed local historians, (Dean Wagner, Rebecca Gross, Linda Good, and Carol Brown, president of the Clinton County Historical Society), studied comparatively all extant maps of the town and examined on microfilm early issues of the Lock Haven Express and the Clinton Democrat as well as later anniversary editions of the Express. Dean Wagner, author of Historic Lock Haven: An Architectural Survey, was most helpful in identifying sensitive architectural areas and assessing the significance of extant structures. Wagner toured the project area with Corps personnel and pointed out many of these historic structures. The principal investigator also discussed the cultural and architectural significance of Lock Haven with Vance Packard of the Pennsylvania Office of Historic Preservation.

Throughout the process of project development, the Corps of Engineers and the primary engineering consultant, Erdman, Anthony, Associates were made aware of sensitive cultural, aesthetic, and architectural elements that ought to be considered in the selection of a final alignment, the design of the structure, and the identification of mitigative measures. Responding to suggestions by the Cultural Historian, both the Corps and Erdman, Anthony, Associates incorporated these ideas into successive stages of project design and development.

The Baltimore District has subsequently coordinated with the Pennsylvania State Historical Preservation Officer and the Clinton County Historical Society regarding the replacement of the openings with ramps and overlooks designed into

the structure. These exchanges are documented in the final EIS September 1975 report and in a 1 March 1979 District letter to the Pennsylvania State Historic Preservation Officer.

The Cultural Historian also interacted with the project's recreation consultant, Clifton Rogers, to insure inclusion of historic sites and sensitivities in the mitigative recreational design elements of wall and levee in sensitive historic areas.

An agreement between the Corps of Engineers and the Pennsylvania Office of Historic Preservation regarding the number of openings in the wall was reached in 1975 (see correspondence in 1975 Final Environmental Impact Statement).

Most of the sources referenced in this study are available at the Anne Hallenbake Ross Library in Lock Haven. Newspapers listed are on microfilm. Additional documentary evidence is available at the Pennsylvania Archives in Harrisburg.

The report seeks to identify major economic developments which contributed to the City's growth, including modes of transport and transportation arteries, industrial and commercial expansion, and significant entrepreneurial efforts by individuals. The report shows how this economic activity helped to create a city of architectural distinction. Major social and cultural forces that contributed to Lock Haven's diversity are also described.

The field survey consisted of walking the proposed alignment on at least ten occasions. Because there were no above ground remains of an early brick works located in the vicinity of the alignment, no artifactual search was conducted. Photographs and maps, however, were consulted to determine the location and operation of three steam saw mills sited along the river west of the Jay Street Bridge. An archeological investigation conducted, under the direction of Dr. James Hatch of Penn State University, focused on Indian artifactual remains; it appears as the first section of this report.

A number of photographs were taken from the most scenic vistas along the river to document the physical and visual relationship now existing between the river and the community.

In the Site Analysis and evaluation, the affected area has been divided into three segments: commercial, industrial, and residential. The sensitive residential area is broken down into three defined geographic areas: 1) Lusk Run to Vesper Street, 2) Vesper to Race Street, 3) Race Street to End of Airport.

II. General Summary of the Historic Movement

John Blair Linn's somewhat idyllic picture of the site of Lock Haven scarcely exaggerates the beauty of the location (Linn 1883:519).

The location of the plain upon which Lock Haven is situated, at the confluence of the silvery waters of Bald Eagle Creek with those of the once Indian "Otzinachson," guarded on all sides by a chain of lofty old mountains, standing as so many verdure-capped sentinels, ever watchful of the movements of the busy occupants of the plain, might justly be termed the "Gem of the Valley."

As will be seen, however, neither the waters of Bald Eagle Creek nor the Susquehanna River were always silvery!

A Military Buffer Zone

The first owners of its real estate planned a utopia--a buffer zone--to be occupied and controlled by officers who had fought with Colonel Henry Bouquet to quell Pontiac's, so called, Conspiracy along the Provinces' western border. While the officers did not receive all that they had petitioned for from colonial government, they did obtain some thousands of acres of land in Buffalo Valley (Union County) and between the West Branch of the Susquehanna River and Bald Eagle Creek in Bald Eagle Valley, including a part of Lock Haven. (Linn 1883:469-471)

But the remoteness of these lands and the turbulent times preceding the Revolutionary War quashed their plans to occupy this "perpetuity," and the officers disposed of their land grants to others.

Until 1768 the site was in Indian country. But the treaty of Fort Stanwix that year with the Iroquois Six Nations cleared the title to the satisfaction of the negotiators, leaving the local Indians as trespassers on land they had occupied for generations. How they discovered their precarious position has not been revealed, but their resentment was predictable. (Meginness 1857:23-24, 33-37)

For a few years, however, pioneers and aborigines managed to live together in peace. The latter found markets for furs and continued to till crops on Great Island several miles downstream. Jennie Reed recalled that she fed the Indians who dropped in to their ground-floor cabin, and that they passed her fancy dress hat from one to the other with expressions that mingled with amazement and disbelief:

In 1769 land in the region was made available in plots up to 300 acres, and the bottom land was taken up quickly--much of it sight unseen. Again, however, land purchasers in Philadelphia were not apt to become pioneers. Instead, they usually remained absentee owners, and resold their tracts to land-hungry, second generation Scots-Irish and Germans living in Berks, Lancaster, and Cumberland Counties.

The quiet period following the French and Indian War was seed time for settlements here, and, by the onset of the American Revolution, a few families had occupied the triangle between the river and Bald Eagle Creek, and Big Island adjacent to it.

As one might expect, a frontier settled by Scots-Irish frontiersmen was patriot to the core, and the first call for volunteers drained off a sizeable number of the militiamen. Thus, when the Indians, supplied with British arms and at times led by British or Loyalist officers, came out of the wilderness, the isolated settlements were virtually defenseless. The Wyoming Massacre on July 3, 1778, and the incursions which followed produced the "Great Runaway," a hasty retreat down the river to Fort Augusta at Sunbury 62 miles below. Women and children occupied boats and rafts while the men walked along the banks to ward off possible ambush.

Origins of Old Town

Though they did not completely eliminate further incursions, the Sullivan Expedition into the Finger Lakes of New York and Colonel Broadhead's march into the Northwestern Pennsylvania in 1779 relieved the pressure on the frontier, and at the war's close pioneers began to return to their homes--most of which had survived their five-year absence. This time the settlement was there to stay, and by the turn of the century the ax and plow were subduing hundreds of acres of wilderness. By 1787 forty-three Presbyterian families were on the scene to furnish a sufficient quantity of wheat, rye, and corn to engage supply ministers for the following year.

As cabins reappeared on the site of the original settlement on the south side of the river, it was referred to as Old Town. Forty years later it would be renamed Lock Haven.

The village expanded slowly along the river from east to west on Water Street. Here a visitor might have found the homes of members of the Fleming family, John McCormick, William Reed, Roger Devling, Joseph Hunt, David Lusk, Andrew Irwin, Indian hunter Peter Grove, James Carskaddon and others interspersed with taverns kept by John Myers, John and Walter Devling, and W. W. Barker. Lodgings were in demand since Old Town was the jumping off place for the frontier on the west and north. A trail to the west which broadened into "the great road to the west" left the river bank at a point behind the present day Fallon House. (Linn 1883:525)

Old Town might well have remained a village indefinitely had not DeWitt Clinton, governor of New York state, projected and carried to fruition the famous Erie Canal joining the Great Lakes with New York Harbor--an achievement dramatized with pomp and ceremony in October of 1825. An unquestioned triumph for New York state, it was a threat to Philadelphia--at this time the principal river of New

York for the trade of the West. In a matter of months the Pennsylvania system of public works, including canals and railroads, was initiated, and while Philadelphia and Pittsburgh would be the mainline, Old Town would anchor the west branch of the Susquehanna River system of canals. (Snyder 1958:11-12)

Jerry Church Founds Lock Haven

It was at this point that Jeremiah (Jerry) Church showed up in the village. It was one of those occasional situations where a person, place and time meet to create unusual change. A New Englander by birth, he had traveled extensively prior to his arrival in Old Town at 36 early in 1834. Fortunately, he published in 1845 a small autobiography titled Journal of Travels, Adventures and Remarks of Jerry Church which not only details his Old Town adventure but reveals insights into his personality. Sensing the potential of the site here at the northern terminal of the West Branch of the Susquehanna Canal he purchased the Henderson tract, 200 acres of land fringing the village for \$20,000--considered a fantastic price--where Lock Haven would soon emerge. (Linn 1883:527)

Church next moved to divide Lycoming and Centre Counties to create a new one and make Old Town--he renamed it Lock Haven--its county seat. A similar action had been defeated in the state legislature earlier. But by dropping the name "Eagle," which appeared to symbolize defeat, and substituting Clinton, and by intensive lobbying through three sessions of the legislature, he fought the battle to a successful conclusion despite opposition from both Lycoming and Centre Counties. Meanwhile, he subdivided his land into 165 lots and laid out streets. His "original plan" extended from Hanna Alley on the east across Washington, Henderson, Bald Eagle and Jay Streets to Sarah's Alley, and from the river on the north across Washington, Main, Church and Bald Eagle Streets. (Linn 1883:528) Through the

next half century it was the hub of the community. (See map, p. 5a)

Hotels, taverns, and stores were built in the growing town:

John Myers built a hostelry and tavern with a ferry across the river. It was located at the bank of the River near the dam. It was later occupied by his grandson John.

Alexander Mahan operated a tavern on the spot of Clinton Avenue and Jones Street. It also housed a store and hotel.

John and Walter Devling started a tavern and hotel in their brick house on Water Street.

W. W. Barker built a tavern on a lot owned by J. B. Quigley. Located below the present Montour house on Water Street, it was later used as a courthouse. The cellar became the first jail.

Clinton House was built on the present site of the Courthouse by Caldwell in 1828-29.

The Lock Haven Hotel was once the State House. This brick building was operated by Algernon Fleming.

Other small stores opened along Water Street. (Linn 1883:528)

There were no early turnpikes to Lock Haven; most improved toll roads ran east and west and the new community was hard to reach. It was a canal and river town.

A Canal and Logging Center

Church's faith in Lock Haven was borne out by its golden years which followed. On November 1, 1833 the feeder dam was finished and the lock near the foot of Jay Street activated to accommodate the first barge. Lock Haven was at once opened to canal transportation to Sunbury at the forks of the river, to Wilkes-Barre on the North Branch, to Pittsburgh via the Mainline of the Pennsylvania Canal, and to Harrisburg and Columbia on the lower Susquehanna. Also, at the river's mouth steam tugs propelled barges to the docks of Baltimore and Philadelphia--the latter

reaching their destination by the way of the Chesapeake and Delaware Canal.

A local trade awaited the completion of the last lock--local timber and grain in return for the manufactured and store goods of Baltimore, Philadelphia and lesser marts along the route. With what appeared to be inexhaustible timber sources in the hinterland, the lumber trade assumed first rank. Passenger service was available also, and merchants made a practice of taking spring and fall trips to Philadelphia to select their stocks.

The stir generated by the new canal increased employment and attracted investment capital. Change was in the air. To the single street Church had found here in 1833, western and northwestern additions were added in 1841, and by 1844, prior to leaving town, he could point to Moorhead and Irwin, Grafius and Jeffries, and John Reed, dealers in drygoods and groceries; Alexander Sloan, stoves and tinware; John F. Sloan and Adam Kemmerdiner, furniture; J. Bowers, boots and shoes; Gustavus Shultz, clocks and watches; A. J. Johnson, drugs and medicines; Thomas Walton, livery-stable; White and Knecht, blacksmithing; L. A. Mackey and H. T. Beardsley, lawyers; J. W. Eldred, physician; Robert Irwin and John Harlan, justices of the peace.

By 1830 lumbering was becoming an important local industry. Most of the logs were sent downstream in rafts to be used for bridges, frame houses, boats and shingles. When the canal was completed in 1833, canal boats were also used to ship lumber. The town became the first and busiest lumbering town on the river. (Linn 1883:525)

Other industrial activities in the region contributed to Lock Haven's early growth. The Lycoming Coal Co. mined coal and iron ore in the area around Lock Haven (1832-36). But the inexhaustible supply of coal they expected to find never materialized. A draft iron smelting furnace was built in 1836 using local stone.

Soon a nail mill was in operation. Beginning in 1836, firebricks were made from clay in the vicinity of Queen's Run. William Farrand established the Farrandsville Furnace in 1840. The steamship "Farrand" made runs on the river from Lock Haven to Queen's Run to Farrandsville. The ship carried passengers and firebrick and coal. (Linn 1883:602)

The census tract from Allison Township in 1840--from which the Lock Haven census was taken--listed a population of 643.

The first municipal service was the Lock Haven Gas Works, incorporated in 1844. Later that year the facility on Church Street with a 30,000 cubic foot capacity provided lighting for the town.

As economic growth continued, legal and cultural institutions were established. The first court was held from 1839-1841 in Baker's Tavern with the jail in the cellar.

Extension of the canal created new markets to the southwest. In 1848 the 25 mile Bald Eagle and Spring Creek Canal linked Milesburg and Bellefonte to the West Branch Canal at Lock Haven.

Passenger traffic between Lock Haven and Williamsport was increasing to the point where three large packet boats made alternate daily trips in 1852.

During the next two decades no fewer than ten first additions moved the town outward in three directions from its base on the river; meanwhile, Lock Haven was made the County Seat in 1839 and incorporated as a borough a year later. A brick courthouse with classical Doric columns soon made its appearance in 1842. Inadequate in a few years, it was replaced by the present Italian villa style structure in 1869. A log jail was replaced by the present one of brick and stone in 1851. Lock Haven Hall and Market House was built in 1871 (extant), the Opera House (extant) a year later, the imposing brick Academy of Music (extant) in 1967, and the Second Empire styled Normal School building in 1877. To house the growing traveling

public, five sizeable hostelrys were erected during this period: The Irvin House in 1838, architect Samuel Sloan's Lock Haven Hotel (Fallon House) in 1855, the Montour House in 1856, the Girard House in 1863, the Eagle Hotel in 1859, and the National Hotel in 1870. (These buildings are pictured and described in a striking new book edited by Dean Wagner entitled Historic Lock Haven: An Architectural Survey, 1979.) Smaller inns, taverns and lodging houses provided more modest accommodations.

The Lock Haven Hall and Market Company on Church Street was incorporated in 1863 with \$30,000 in capital. This brick building had 60 stalls and could accommodate many produce dealers. In Historic Lock Haven Dean Wagner explains that this became such a popular place that, "the city council created a free curb market in 1872 on the west side of Grove Street from Main to Bald Eagle Streets and the south side of Church Street from Grove to Vesper Streets." (Wagner 1979:109)

In 1852 the 800 foot Jay Street bridge rendered the River ferry obsolete. The Bridge Company had been organized in 1849 by the following concerned citizens: Hallenbake, J. F. Hauling, J. Grafius, L. A. Mackey, N. Hanna, J. Hanna, Jared Irwin, Edward Schultze. The Bridge, a covered structure with a large toll house on the Lock Haven side, was built by John Fleming. It was damaged and later rebuilt in 1865.

The period from 1852-1856 was one of intense activity in Lock Haven. All sectors of the economy were involved: industry, trade, commerce, the professions, transportation, even entertainment. It was also the period when some of the most significant structures in the community were erected. The Clinton Tribune of August 22, 1854 (page 1) surveyed the activity:

Our town is improving with extraordinary rapidity. In every street from five to a dozen new buildings are going up, and in a portion of the new addition, which but a few weeks ago was a grain field, we see one building already up, and two or three others commenced. Mechanics are greatly needed, and almost any price is paid to secure their services.

At least 150 carpenters, bricklayers, masons, and plasterers, and fully half as many day laborers, could get steady employment here, at six hours notice, and at wages considerably higher than are paid in some other parts of the state.

In his study of Lock Haven architecture, Dean Wagner credits the heralded coming of the railroad for at least some of the investment in fine Lock Haven homes.

Once it was learned that Christopher Fallon of Philadelphia was bringing the railroad and a large hotel to Lock Haven, the economic leaders of this area decided to make considerable individual investment in their homes. As a result, the largest mansions in the city were built by these men in the three-year period 1854-1855-1856. It was this Philadelphia connection that brought to the architecture of Lock Haven the polish of the nationally popular architect, Samuel Sloan. (Wagner 1979:9)

The building boom continued at a less frenetic pace until the Panic of 1873, and the quality of the architecture remained high. Designed in the architectural patterns of the era by such noted architects and builders as Samuel Sloan, Isaac A. Shaffer, Patrick Keefe, Levi R. Faup, and Amos S. Wagner, 114 buildings (22 of them in the Water Street section) have survived the vicissitudes of more than a century to stand as monuments of era--this despite the major floods of 1865, 1869, 1936, and 1972, and the more numerous lesser ones. Fortunately, the citizenry of Lock Haven have come to recognize their aesthetic value and have restored many of them to fit modern needs--resisting pressures to replace them with the concrete and glass structures of the late 20th century. Architecturally, the older blocks of Lock Haven remain adorned with Italian Villa and Second Empire structures--with concentrations on West Water, West Church, and West Main Streets--possibly unmatched by any community its size in the state. These structures are described in Historic Lock Haven: An Architectural Survey.

One of these mansions was built at 118 West Water Street for David K. Jackman, who was typical of the opportunistic men who had emigrated to Lock Haven. Jackman who is best remembered historically as a bondsman for Jefferson Davis, came to town about 1840. By 1844 he was a partner in the Lock Haven Gas Works; at one

period he was the owner of the Lycoming Coal Company; and in 1856 he was the president of the Lock Haven and Tyrone Railroad Company. During 1856 he also became a member of the Board of the Sunbury and Erie Railroad Company. With success in business assured, he entered politics, and in 1857 won election to the Pennsylvania House of Representatives. Jackman helped arrange the sale by the state of five canals to the Sunbury and Erie Railroad Company in 1858. Five months later the company sold the canals for a \$375,000 profit. One insightful reporter noted that, "it is no coincidence that construction of the rail line from Sunbury to Lock Haven was successfully completed by July of 1859."

The River and the interlocking system of canals remained the major artery of commerce until the 1870's; even later in the case of logging. While the shallow tortuous course of the River required a series of dams and locks to adjust it to the canal, it might be navigated downstream during the spring freshets and less predictable high water in the fall and the month of June. Even before the first canal packet set out from Lock Haven, boatmen were taking their chances with the whims of the weather and descended the river in rafts bearing country produce and timber. It was an occupation for the hardy, since a successful run down the lower Susquehanna was followed by a long tramp home. What was a trickle at the outset became a torrent during the years which followed as timber prices downstream offered ever higher profits to the successful entrepreneur. A picture taken by John W. C. Floyd--premier photographer in the late 19th century--from the Jay Street Bridge shows the east of the river jammed with rafts formed from white pine logs measuring as long as 300 feet awaiting the proper stage of water. (Wagner 1979:22)

Attracted to the West Branch by the great pine forests, Maine lumbermen built booms in the river designed to catch logs, marked and identified, which were floated from Moshannon and Sinnemahoning Creeks as well as smaller streams for delivery in

high water. The construction of the first boom in 1849 by the West Branch Boom Company marked a major turning point in Lock Haven development. The boom which reached half way across the river to collect logs made the River even more important for transporting logs to downriver markets. In the race for a head start, Williamsport built the first log boom in 1850 and became the largest lumber center in America. Lock Haven's boom was constructed a year later, and, while it never matched Williamsport's, it restrained as many as 75,000,000 board feet. (Wagner 1979:19-20)

Ario Pardee

Buyers gathered here, purchased logs, had them lashed into rafts and floated to their intended destinations. With countless logs available at the boom, Lock Haven began to specialize in wood working; it became its largest industry. At its height nine mills were sawing 100 million board feet annually and employing more than 300 men.

According to the Clinton Tribune of September 13, 1853, (page 3), three saw mills could turn out 150,000 feet of lumber in 24 hours. One operated as Hawley & Co. could saw more than 100,000 feet per day; it was one of the largest in the state. Another mill, owned by A. G. Crowell, had one gang numbering 27 saws with a daily capacity of 30,000 feet.

The saw mill of A. Pardee & Son was located on the riverbank, a few blocks above the bridge. It had been established in 1852 by Wing & Cetchell, and passed through the hands of several owners before it was acquired by the Pardee interests in 1874. As many as 35 workers were employed in the mill. The presence of Ario Pardee, a coal baron from Hazleton, in Lock Haven brings up an interesting point: the marriage of coal and lumber. The mining industry consumed vast quantities of timber. Above ground, there were the tipples breakers, mine buildings, railroad

ties, as well as lumber for numerous company towns. Underground, timber was mainly used for props, sawn lumber for mine cars, planking, ties, and countless other uses.

Pardee needed the timber resources of northcentral Pennsylvania, and developed extensive timbering and sawmill operations in Union, Snyder, and Northumberland Counties as well as Clinton. In so doing, he was typical of the entrepreneurs who perceived the overall systemic relation between natural resources, energy, transportation, and the consumer. He built sawmills along the Susquehanna River where timber from his logging operations could be cut and sized, then shipped via rail to mine operations in the Wilkes-Barre/Hazleton area. Lock Haven was one of these staging areas. Other large saw mills were D. Blanchard and Co., Bickford and Blackburn, and Bald Eagle Mill. Hipple and Wilson, and Gossler and Co. operated the largest planing mills. There were also four furniture makers in the 1870's including the Lock Haven Furniture Company, one of the oldest continuing operations in the town. There were also smaller iron industries engaged in producing machinery used in saw mills and wood shops. Tanneries were opened to turn out belting for these businesses.

The census of 1850 provides an accurate picture of the occupations and activities that made up the community:

Trades:

Shoemaker	6	Coach maker	1	Tailor	5
Carpenter	13	Stone mason	1	Apprentices	9
Carriage maker	2	Sadler	1	Printer	2
Brick maker	1	Butcher	2	Contractor	1
Tanner	3	Bridgebuilder	1	Pointer	4
Barber	2	Chairmaker	1	Tinsmith	1
Watchmaker	1	Painter	3	Milliner	2
Blacksmith	4	Millwright	1	Laborer	27
Cabinet maker	4				

Sales, Clerical:

Clerk	4	Lumber dealer	1	Druggist	2
Hotel keeper	4	Merchant	9		

Public Service:

Teacher	4	Sheriff	1	Physician	5
Lawyer	6	Clergy	1	Constable	1

Transportation:

Stage driver	1	Boatman	1	Lock tender	1
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Others:

Farmers	9	Gentlemen	3
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A Railroad Town

The canal system in Pennsylvania had scarcely gotten underway when attention turned to the railroad. By the 1840's rail lines were operating in the anthracite coal regions and in 1852 the first locomotive entered Sunbury. Hopes were now high along the West Branch. Christopher Fallon of Lock Haven became President of the Sunbury and Erie Railroad, organized to link Erie with Philadelphia. Delayed by the Panic of 1857, it finally reached Lock Haven in 1859 on "T" rails formed in Danville, the first to be manufactured in the United States. In 1859 a train to Whetham called the "Rattlesnake" (Linn 1863:624-625) connected to passenger trains for Williamsport and Harrisburg, Philadelphia and Baltimore, and to Second Fork at the mouth of Sinnemahoning Creek for stages up river. The Civil War slowed construction westward, but traffic finally moved along the entire route in 1864. Its advantages over the canal were obvious--trains operated during the long winter months when canal and river transportation was dormant. But plans to bring railroad yards and large scale iron smelting to Lock Haven did not materialize. In 1854 the Bald Eagle Valley Railroad was constructed from Lock Haven along the same line as the West Branch Canal to Tyrone, giving Lock Haven a connection with the main line of the Pennsylvania Railroad. Meanwhile, the Sunbury and Erie had become a part of the Philadelphia and Erie line; it in turn was absorbed into the Pennsylvania Railroad system.

Freight traffic, both for exported and imported commodities, was substantial in 1862:

anthracite coal	84,000 tons	lime and limestone	900 tons
bituminous	5,000 tons	agricultural products	38,000 tons
pig iron	8,000 tons	merchandise	15,000 tons
railroad iron	5,000 tons	manufactured goods	19,000 tons
iron castings	3,000 tons	livestock	1,500 tons
iron ore	4,000 tons	lumber	59,000 tons

Passenger traffic was also brisk. By the 1870's a resident of Lock Haven might reach Philadelphia one day and return the next. Merchants took advantage of the low freight rates to Philadelphia.

The pace of Lock Haven's growth in these balcyon years may be seen in the census figures. In 1840 the population of Allison Township, including the village of Lock Haven, was 643; in 1850 the borough of Lock Haven numbered 830; in 1860 it was 3,349--a gain of 300 percent in a single decade, and by 1870 it had doubled again!

Ethnic Changes and Cultural Developments

During those years the demand for labor far outstripped the supply. Hundreds of workers came in from the surrounding countryside: Irish immigrants following the canal found their way to town where they became a substantial part of the railway labor force. They formed the nucleus for the founding of St. Mary's Roman Catholic Church (Church of the Immaculate Conception). The inflow of Germans was sufficient to create the St. Agnes Roman Catholic and the German Lutheran churches. The census of 1860 reveals that more than 400 Irish and Germans had found employment here. Smaller numbers of Maine and Canadian lumbermen, New Yorkers and Marylanders added to the ethnic mix, and by 1874 a sufficient number of blacks had made Lock Haven their home to warrant an African Methodist Church. Then, by the turn of the century, Italians were expanding the labor market.

The presence of these ethnic groups created an interesting rural "melting pot." The town was now beginning to fill up and take on many of the characteristics of a small city. The census of 1880, for example, demonstrates a vigorous

expansion of the trade sector over that of 1850. The number engaged in various crafts were:

Trade:

Carriage	1	Cooper	3	Contractor	1
Baker	4	Butcher	4	Chair weaver	1
Blacksmith	3	Boilermaker	1	Printer	3
Brick & stone		Marble cutter	5	Watch and clock	
mason	10	Cabinet maker	1	makers	2
Carpenter	21	Milliner	11	Mechanic	1
Carpet weaver	2	Tinsmith	1	Dressmaker	32
Harness maker	1	Confectioner	2	Millwright	2
Saddler	1	Barber	3	Painter	3
Gunsmith	1	Plumber	1	Apprentices	7
Tailor	9	Shoemaker	4	Upolsterer	1

Like industry, transportation jobs in Lock Haven reflected the increasing importance of the railroad, the continuing presence of the canal, and an improving road network to Bellefonte, Jersey Shore, and Williamsport.

Lock Haven's rise may also be read in the local presses in 1870; for example: "the river is filled with rafts; lumbermen say there was never a greater quantity of lumber down in any season . . . The log-boon has been enlarged by extending it downstream to the bridge . . . The Samuel Kistler Steam Tannery has begun operations. . . Thomas and Mason set in motion their new saw mill." (Wagner 1979:94)

Accidents on the River were not unknown. There was a log jam in 1874. All traffic on the river was stopped by 200 rafts, thousands of logs and two canal boats.

Many industries owed their origin to the plentiful supply of lumber. The Lock Haven Tanners (see Plate 14) was located on the east side of the canal between Main and Church Streets. Built by Myers, Herring and Co. in 1853, it was destroyed in 1875 and rebuilt as a two-story brick building. It employed 12 people. The West Branch Tannery, located on the south side of the Philadelphia and Erie Railroad on Clinton Avenue, was built in 1870 by the Kistler brothers.

Furniture manufacturing began before 1869. Furniture and coffins were the main products. James Sloan was an undertaker and furniture maker on Church and Grove Streets. Other furniture makers were: Jason and Schermerhorn on Clinton Ave-

nue (1869); J. W. Theile on Mill and Church Streets (1869); Lock Haven Furniture Company on West Church St. (1879). Streets had not yet been numbered.

There were also support industries for the lumber mills. Iron works sprang up to supply parts for sawmill machinery, steam engines and castings. The Lock Haven Iron Works was established by Harvey, Best, Fearon and Mackey on Walnut St. near the railroad and Bald Eagle Canal. The plant was later rebuilt by J. H. Picher and Sons in 1869. The Eagle Iron Works was started in 1868 by P. Knights, J. Agar, Robert Agar, and John Barnhart. Eleven years later in 1879 the Novelty Iron Works was established by Foust and Elliott.

The land along the Susquehanna River west of the Jay Street Bridge was a river front industrial district more than 100 yards deep in most places. No traces remain today of the three steam saw mills located in this area. (See Plate 5)

Lock Haven became known as the cultural center of northcentral Pennsylvania because it had two large halls for entertainment. Musicals were the primary form of entertainment. Many residents, recall hearing that "Uncle Tom's Cabin" was performed both before and after the Civil War years. The Academy of Music, a brick building on the corner of Main and Vesper Streets, was built by the Great Island Lodge of IOOF. It contained stores on the first floor, an auditorium on the second, and the IOOF on the third. The Lock Haven Opera House was built in 1869 by Farnsworth and Mussina. It was also a multi-purpose building with the first floor containing stores and saloons while the second floor had the stage and auditorium, which could seat 1200 persons, and the third floor had a meeting hall. The building still stands at the northeast corner of Main and Grove Streets. (See Plate 16).

The first bank to be formally incorporated was the 1st National Bank of Lock Haven which was organized and chartered in 1864. It was located in the Exchange Building on the northwest corner of Main & Vesper Streets. Moore, Simpson & Co's.

banking-house was located on Main Street between Grove and Vesper Streets. It was established in 1867.

The Lock Haven Library Company was chartered May 10, 1866, and was organized in July 1868. Philip M. Price, Esquire, provided in his will for the maintenance of a library and reading room. The rooms were located in the Mayer Block of Water Street.

Rev. G. W. Shinn, rector of St. Paul's Episcopal Church and Professor Raub, principal of Lock Haven High School, worked together to establish the eighth normal school of Pennsylvania in Lock Haven. Mr. Philip M. Price donated 16 acres of land for the institution.

As the century wound down, however, the city was in a state of transition. Hopes for extensive coal and iron mining had not materialized. The railroads rendered the canals obsolete, and as the "inexhaustible" forests were leveled rafting declined. As early as 1871, the Clinton Democrat noted that trade was sluggish, and it pointed to the necessity of getting manufacturers located here. Later the same year it observed that "many men have been out of employment for a large portion of the summer and fall, and now winter is upon us." In 1886 the same newspaper pointed out that "Rafting is no longer a great benefit to Lock Haven . . . Time was when the town was fairly alive with our up-river friends, and they did not object to remaining with us as long as their pocketbooks would permit . . . Alas, the improvements of the age in the matter of transportation has modified things, and now the festive woodman arrives one hour and departs the next (by train)." Finally, in 1893, it noted that the log boom had been sold.

Twentieth Century Transitions

By this time, however, manufacturing was filling the void as increased diversification of Lock Haven's industries took place. While smaller shops were succumbing to mass production and consolidations, others, such as chemicals and paper making, were adapting to the changing scene.

Lumbering and related industries continued: Pardee and Son; Bickford and Blackburn; Bald Eagle; Hipple and Wilson; and others in sawmills and planing mills.

The Lock Haven Furniture Company was established in 1879 on the present site manufacturing home furnishings. M. L. Claster and Sons was established in 1901 as a coal, feed, and lumber company. It is still active as a steel fabricating and lumber company. The company has stores throughout northcentral Pennsylvania.

Tanneries from the earlier period were still active: The Lock Haven Tannery and the West Branch Tannery.

There continued to be support industries for lumber. The Lock Haven Iron Works, Eagle Iron Works, and the Novelty Iron Works remained in operation. J. P. Beck established the Scroll and Stair Work Mfg. in 1881 on Clinton Avenue at Fourth St. adjacent to the Novelty Iron Works. General Armature, established in 1917 at Prospect and Logan Streets, manufactured armatures, bearings, and generator parts.

The Queen's Run Fire Brick Co. moved to Lock Haven in 1888 locating on the river at the foot of Third Street, and increased production to 20,000 bricks a week. The clay, however, still came from the Queen's Run Area. The company manufactured brick for furnace linings, especially for the glass industry. In 1904 the company merged with North Bend Fire Brick Co. and West Branch Fire Brick to form Queen's Run Refractories.

Electricity came to town in 1882 when Lock Haven Electric, Light and Power Co. was established subsidiary of the Lock Haven Gas. Co. The Company installed

a generator that year on Church Street, but not until 1887 did street lighting become a reality. Store and home lighting began in 1890.

Two new banks were added in the last decade. The First National Bank of Lock Haven on the northwest corner of Main and Vesper Streets was established and still exists. The Lock Haven Trust Co. was chartered in 1890.

Textile and apparel mills have been an important part of the local economy. The Lock Haven Silk Mill was established in 1898 by F. G. Yorks. The mill was successful and expanded and then sold to the Bloomsburg Silk Mill. The plant produced silk for dresses, neckties and umbrella cloth. However, this mill which employed 269 in 1975, recently shut down in the face of foreign competition. The Lock Haven Garment Company, which had employed 200 workers, had closed earlier. The nearby Woolrich Woolen Mills, which manufactures yarns, blankets, socks, and woolen garments, continues to show impressive production and marketing gains; a new plant is under construction. In 1975 they employed 531 workers.

Offspring of the heavy local dependence on timber, paper manufacturing has become important. In 1883 L. G. and M. M. Armstrong founded a small paper plant. With a ready supply of wood, coal, and water and aggressive salesmanship, it soon developed an intrastate market. A series of consolidations resulted, and by the 1920's it had become the Pennsylvania Pulp and Paper; a bit later the New York and Pennsylvania Paper Company. At this time the Castanea plant in suburban Lock Haven was supplying the paper for several of the largest magazines in the nation, including the Saturday Evening Post, the Ladies Home Journal, and the Country Gentleman. During the Great Depression it had a work force of more than 800 men and women.

Further consolidations merged the Lock Haven factory with the Hammermill Paper Company of Erie. By the third quarter of the 20th century, it was the second largest employer in the area, with more than 1,000 employees. Clinton Paper Co. is also engaged in the manufacture of paper and has employed as many as 250 workers. Founded by Cal Armstrong in 1929, the company has been located in Castanea, with a maximum of five different warehouse sites. Clinton Paper Co. products, which are shipped nationwide, include bond paper, adding machine rolls, reams for newspapers, wire bound notebooks, steno pads, etc. The firm employs 45 workers.

Another success story in the early 20th century was Clark Printing founded in 1905. In this instance a fleet of salesmen sold its calendars to purchasers in 46 states; it became the largest printer in the region.

In the 20th century chemicals became a major local industry. The American Aniline Products Company was founded on the site of an abandoned sewer pipe factory just prior to World War I. After a shaky start it was purchased by B. R. Armour who joined with Dr. Talfryn James, a noted industrial chemist, to transform it into a highly successful chemical and dye industry. American Aniline is now part of the American Color and Chemical, the fifth largest producer of dyes in the country. In 1975 the company employed 313. The company manufactures dyes for synthetics and plastics, for a national and international market. Two other firms manufacturing chemicals are Drake Chemical which occupies the site of the second American Aniline plant, employed 43 workers in 1975; and a third, Energy Industries, Inc., employed 28 in 1975.

Two meat packaging companies exist today: Crissmen, Inc., which employed 63 in 1975; Winner Packaging Co., Inc., which employed 21 in 1975. Another paper related producer, Wood Chips, manufactures pressed wood for buildings and railroads.

Piper Aircraft Comes To Lock Haven

After massive floodings in 1889 and 1936, and the Great Depression, Lock Haven

again faced a rising unemployment and a doubtful future. Then W. T. Piper came to the town in search of a location for the manufacture of light airplanes. He liked what he found here. A few years earlier he had joined C. G. Taylor, the inventor, in a partnership to manufacture small commercial planes in Bradford, Pennsylvania. But early in the depression the company went into bankruptcy. Piper and Taylor salvaged the light Cub - designed for personal flying and shorter commercial flights. Then in 1938, a fire destroyed the plant.

Piper decided to rebuild in Lock Haven, where he acquired the abandoned silk-mill a few blocks southeast of the city. World War II created a demand for pilot training and light fighter planes, and Piper's production multiplied. During the post-war recession of the aircraft industry, Piper developed the Apache--an all metal model designed for business services. This became the cornerstone of the company's growth. Later Piper added other successful models, light Cherokee, the turbo-charged Navajo, the Aztec, the Seneca II and Pawnee, and built a second plant in Florida. As a success story it has few parallels. Today Piper planes are sold all over the world and Piper employs 2,300 in Lock Haven and several hundred at other branches in Renovo and Quehanna.

As a result of these industrial ventures by a new generation of entrepreneurs, Lock Haven did not experience the economic stagnation and low population growth of most other towns in the region. In fact, gains were made in each decade from 1930 to 1960; the upward trend had peaked, however, by 1960.

<u>Census</u>	<u>Pop.</u>	<u>Census</u>	<u>Pop.</u>
1930	9,668	1950	11,381
1940	10,810	1960	11,748

Mid-Twentieth Century Highway Developments

The diversification of industry has been facilitated by the highways that link Lock Haven to expanded markets. The highways also further expand the economy, the town from being regionally based to being more nationally based.

The idea of an east-west highway, which would be important to Lock Haven, was first initiated in 1938 by the Williamsport Chamber of Commerce. The Chamber was hoping to attract some of the trade from Chicago and Cleveland to New York; however, these plans were squelched by World War II.

The concept was later revitalized in 1952 when the Pa. Turnpike Commission was formed to create a self-supporting highway across Pennsylvania as a trade link from Chicago to Philadelphia and New York. However, the design called for this route to be located to the south, leaving the highway plans of Northcentral Pennsylvania still unresolved.

In 1954 the Williamsport Chamber of Commerce again initiated the idea of a northern east-west highway project named the Keystone Shortway. As a result of their intensive lobbying efforts, the Shortway was integrated into the nationally financed interstate highway system as Interstate 80, which would go from New York to Cleveland, to Chicago, and to San Francisco.

The Lock Haven Chamber of Commerce was instrumental in lobbying for the location of local interchanges. Local industry had been hampered by the lack of high-speed trucking. As a result of their efforts, four interchanges were located in Clinton County.

The Keystone Shortway (Interstate 80) was completed for 313 miles from Stroudsburg to Sharon and dedicated on September 17, 1970.

The desire in Lock Haven for a north-south highway coincided with completion of the Shortway. A link was needed from Lock Haven south to Interstate 80, which a modernized 220 could provide.

In the mid-1960's the Appalachian Thruway Association was founded, and Frank O'Reilly, Jr. of Lock Haven served as President. The objective of the Association was to investigate the possibilities of this north-south route and to motivate its development.

The federal government added impetus to the thruway by funding it under the Appalachian Highway System. They proposed to create a high-speed highway along the Routes 22 and 15 corridors from Courtland and Elmira, NY, south to Williamsport, Lock Haven and Interstate 80, then to Altoona and south to the Pennsylvania Turnpike and to Cumberland, Maryland where it would access Interstate 70 from Washington and Baltimore.

As of 1977, 75.7 miles of the 246.8 mile thruway was completed, and another 80 miles was under construction. The expected completion date is 1988. The Lock Haven by-pass of 220, opened in May of 1978, goes from Milesburg to Avis, a distance of 13 miles.

A direct interchange serving Lock Haven (The Jay Street Connector) was approved but budget cuts and the opposition of local historical groups to the proposed routing delayed the project. However, several significant structures were razed to accommodate the new route*.

Not until 1979 was the city of Lock Haven able to obtain the necessary financing for the Jay Street Connector. Work on this final segment of a modern high-speed highway network linking Lock Haven and Northcentral Pennsylvania to national markets commenced in the same year.

The road network is important to industries in Lock Haven that have large freight volumes. Hammermill Paper has 8-10 incoming trucks per day and 30 outgoing. Piper also depends on the highways. Estimates for the month of November, 1978 reveal that Piper has 429 incoming shipments and 279 outgoing shipments by motor freight. In addition Piper has 2,320 incoming shipments and 2,970 outgoing shipments by U.S. Parcel Post, and bus.

* Apsley House; C. S. McCormack House (1868); Lyons Mussina House, (1875)

Rail systems are also an important mode of transportation for businesses. Hammermill has 15-20 incoming rail shipments of chemicals per month, 350 shipments of raw materials per month and 100-150 shipments of pulp per month. The company also has 55 outgoing shipments of paper per month and 75-100 outgoing shipments of chips per month. Using rail and truck, Hammermill distributes products to customers in 115 cities in 29 states and two countries.

Architectural Periods

During the early period of settlement of Lock Haven (1770-1815) log cabins were the basic structures. Clary Campbell came to the area just before 1769 and had a log cabin located at the upper end of Main Street. Another early structure was built by John Fleming in 1773. Purchasing a tract of land between Bald Eagle Creek and the West Branch of the Susquehanna River, he built a home on the bank of the river close to the south abutment of the present dam.

The first of these log structures was William Reed's cabin. Reed came to the area in 1773 and built his cabin of hewn logs on or near the site of Montour House (now the Hotel Riverside on the southeast corner of Jay and Water Streets). His cabin was surrounded by a stockade extending along the West Branch from Sunbury.

An old log school house was located near the Great Island Cemetery during this period.

With the coming of the canal and the lining out of building lots by Jerry Church, a town began to form. By the late 1830's the Federal style was prominent. James Jefferies' House, 400 East Bald Eagle Street, is an example of the Federal style, and, like many early homes, it was surrounded by 120 acres of land which he farmed. Also, the original Clinton County Court House (not extant) was built in 1840 in the Federal style. It stood at East Church Street between Henderson and Washington Streets. These early structures, with only a few exceptions, (the Jeffer-

ies House at 400 East Bald Eagle Street), burned or were demolished to make room for the more substantial structures to follow.

By 1840 examples of Greek Revival structures began to appear in Lock Haven. The Moorhead-Irvin House (1840) at 221 East Main Street, the Thomas Simmons House (1842) at 202 North Jay Street; John Myers House (1842 - not extant) at the southeast corner of Main and Jay Streets, and the Odd Fellows Hall (1849) at 217 East Main Street.

The Greek Revival style continued into the 1850's. The Great Island Presbyterian Church on East Water Street is an outstanding example of Greek Revival architecture and was constructed in 1850. Other examples of the Greek Revival style were: the Clawwater House (1851 - not extant) at 525 Bellefonte Avenue, the David K. Jackman House (1853) at 118 West Water Street, the Simon Scott House (1854) at 216 East Main Street, the James White House (1854) at 46 West Water Street, and the J. F. Lindig House (1856) at 252 West Water Street.

Other styles--Gothic Revival, Italianate, Italian Villa, Second Empire and Romanesque Revival--began to appear in the 1850's, starting point for the most significant flowering of architecture in central and northcentral Pennsylvania. The scale, design, and architectural diversity of these structures built between 1850-1860 is remarkable. Many buildings were executed or influenced by one of the most influential architects of the period, Samuel Sloan.

Samuel Sloan made major contributions to American domestic architecture in the nineteenth century. Sloan's designs were regularly featured in Codey's Ladies Book, the most widely circulated magazine in the country. The author of Model Architect, Sloan was strongly influenced by European styles; after a European tour in 1856, his designs were influenced by the new Baroque revival.

The Allison White House was the first important example of Gothic Revival built in Lock Haven. It was constructed in 1853 at 104 West Water Street. In 1854 another

Gothic Revival house was built by Phaon Jarrett at 104 West Main Street. Other significant examples of this style are the Craig-Furst House, 220 West Water Street (1860), S. D. Ball House, 362 East Water Street (1865). The Ball House is now the Heisey Museum, owned and operated by the Clinton County Historical Society.

The introduction of the Italianate Style was to have an important influence on Lock Haven architecture. It was introduced in the L. A. Mackey House (1854) at 201 East Water Street. L. A. Mackey was also one of the builders of the Italianate styled Fallon House (1854) on East Water Street. The Jacob Grafius House (1857) at 217 East Water Street was also built in the Italianate style. The most expensive mansion of the 1850's was the David Carskaddon House (1857) built at 216 East Water Street in the Italiana Villa style.

The Greek Revival continued into 1858 with the construction of the Charles Scheid House at 371 East Church Street and the Isaac Packer House at 317 East Main Street. One of the most elaborate buildings, the Central State Normal School (1889), at Fairview and Water Streets, was built in Victorian Romanesque style. It is now gone. (See pictures in Historic Lock Haven, p. 152-153.)

Toward the end of the century the Queen Anne style was introduced into Lock Haven. Outstanding examples of this style remain within the National Historic District, including the Boyd Parker House, 112 West Main Street; Worth Frederick's House, 405 West Church Street; Elizabeth Bridgers House, 232 West Main Street; Moore Fredericks House, 55 West Main Street; Wilson Kistler House, 302 West Church Street; the P. S. Merrill House, 228 West Water Street; Justine Crawford House, 204 West Main Street; Frederick Kramer House, 121 West Church Street.

These homes are interspersed with earlier examples of the Italian Villa, Gothic Revival and Second Empire. Still extant, these structures create an integrated series of streetscapes rarely seen in the writer's opinion in towns of comparable size in central and northcentral Pennsylvania.

At the turn of the century and continuing until 1940 the colonial revival influence was strong, dictated in part by the continuing presence of significant period structures. This style is represented in a number of residences notably the Neo-Adamesque Sedgwick Kistler House, 30 West Water Street (1907) and the Bell Telephone Building, 25 West Main Street, (1939) a Neo-Adamesque structure.

The Griffin Apartments, 133 West Water Street (1940) are also executed in the Neo-Adamesque style. Georgian Revival is represented in the Donal Hopkins house, 217 West Water Street (1925).

So complete is the earlier built environment that virtually no new residential structures have been built within the Historic District. One notable exception is the modern one story William T. Piper House at the end of Sixth Street along the River. A number of the large Italianate structures in the District have been razed because of their deteriorating condition; one of these sites was used for a new modern addition to the Anne Hallenbake Ross Library at 232 West Main Street.

III. Site Analysis and Evaluation

Lock Haven contains a rich architectural heritage that has consistently evolved from an exceptional period of design integrity, scale and diversity--1845-1875. Some architecturally significant homes have been razed to make way for new development; others have been torn down due to their deteriorating condition. But the remaining built environment is significant, particularly the homes and commercial structures included in the National Historic District.

1) Commercial

The business section of Lock Haven contains a substantial number of architecturally distinct commercial buildings that lend variety, intricacy, and irregularity to the visual streetscape. These include extant examples of Romanesque Revival, Greek Revival, Italianate, Renaissance Revival, Victorian Romanesque, Georgian Revival, and Victorian Gothic. Italianate and Romanesque Revival predominate. Some specific buildings and their major design characteristic are:

Italianate:

Fallon House (1854)

North side of East Water Street
between Grove and Vesper Streets

Opera House (1866)

201-211 East Main Street

Exchange Building (1871)

East Main Street and Vesper Street

Jesse Shaffer Building (1867)

9 West Main Street

Deborah Rynder Building (1867)

7 West Main Street

Beck's Hotel (1877)

Grove and East Church Streets

Romanesque Revival:

Academy of Music Building (1867)	101-103 East Main Street
Myers-Raff Building (1873)	125-127 East Main Street
Melick-Conklin Building (1875)	201 East Church Street
Fredericks Building (1877)	143 East Main Street

Greek Revival:

A. Farnsworth Building (1863)	312 Grove Street
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Victorian Romanesque:

Proctor Myers Building (1894)	107 East Main Street
Thomas Harmon Building (1894)	109 East Main Street
Allan Sterner Building (1901)	117 East Main Street

Victorian Gothic:

Simon Building (1883)	130-134 East Main Street
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Georgian Revival:

Clinton Trust Building (1906)	124-126 East Main Street
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In some blocks the consistent roofline, common brick surfaces and design elements create a continuous commercial facade that dates to the latter half of the 19th century. Many buildings, however, have been modernized on the first floor creating an incongruous appearance with the original upper floors. There has been no attempt to create a sense of aesthetic wholeness in the downtown as new buildings and facades are added. The central business district is part of the City's Historic Register District.

One small commercial strip is located in the immediate project area, along the river west of Sixth Street. It contains a service station, retail outlets, restaurant, and a dentist's office. These buildings, with the exception of the dental office which has been substantially altered, are modern undistinguished structures that do not contribute to the architectural character of the City.

2) Industrial

The zoned industrial section of Lock Haven and Castanea Township is occupied by

major employers: Piper, Hammermill, American Color. Piper has established a modern corporate headquarters at the plant site and share facilities of the Lock Haven Municipal Airport on the eastern fringe of the City. As the site of the early development of Piper Aircraft, a pioneer in the light plane aviation industry, the plant and adjacent airport must be considered significant, if not an historic landmark. At the southern end of the City bordering Castanea Township is the Hammermill plant, a major regional employer. Primary source of flooding in this section of the City is Bald Eagle Creek. Some of the land is now used as a landfill for discarded paper by Hammermill and will not support vegetation at the present time. Whatever visual value the area along Bald Eagle Creek may have had in the past, much of this value is now disrupted by the construction of the Hammermill Paper Plant, especially the waste pond area. The placement of disposal materials has altered the vegetation along Bald Eagle. The edges of the old storage pond (southwest of the Hammermill plant) and a rarely used service road, bordering Bald Eagle Creek and circling the old storage pond, were heavily littered at the time of inspection (November 1978 to March 1979).

3) Residential Areas

Three specific areas deserve comment: a) Lusk Run to Vesper; b) Vesper Street to Race; and c) Race Street to end of Airport.

- a. Lusk Run to Vesper: From Lusk Run to Sixth Street there are no sensitive architectural or historic structures. But the scenic vista is an important visual resource. From the railroad tracks along Susquehanna Avenue, pedestrians now have an unimpeded view of the West Branch and scenic mountain ridges to the north. (Plate 1) From this perspective the Susquehanna appears to be virtually a wilderness river. Pedestrians and motorists driving west along Water between Second and Sixth Streets share this scenic vista also. There are a number of commercial buildings along the

river west of Sixth Street (see earlier discussion in Commercial section). Between Fourth and Fifth Streets is a fine example of modern residential architecture, the one-story ranch style Piper home, located on the riverbank. The Immaculate Conception School, a rectangular one-story brick structure built in 1962 is situated about 50 yards from the river between Third and Fourth Streets. A parking lot extends behind the school almost to the river. East of Third Street along Water Street an area of privately owned homes, multiple dwellings, and early historic structures form a relatively coherent architectural pattern emphasized by stately trees on both sides of Water Street and a close harmonious relation to the River. This relation is shown in Plate 2.

Sweeping back yards of the large, well-maintained residences on the north side of Water Street reach to the River's edge. In the author's opinion, tall trees and landscaping create a physical and visual harmony between the river and the land. (Plate 3). About 17 of these structures in the Water Street Historic District will be indirectly affected by the project. (See discussion under "Impact on Historic Structures and Environment").

West of Vesper Street, and stretching from Water Street to Main, there is a concentration of architecturally significant homes, which form part of the City's Historic District. These homes are contiguous to those whose backyards open to the River and create a continuous aesthetic and architectural, structural fabric that is reinforced by spacious trees lining wide streets. However, near the college, some of these homes have been converted to apartments exhibiting a very low level of maintenance and detracting noticeably from the visual quality of the environment. An example of this situation may be seen in the 400 block of West Water on the south side of the street (Numbers 420, 428, and 442).

Three steam saw mills occupied land along the River between Third and Grove Streets in 1862 (see Plate 14), dependent on the West Branch Boom which created a

floating stockpile of logs. The last of them, the Percy White Mill, was razed in 1914.

A brick works, moved to Lock Haven in 1888 from Queen's Run, was located on the site now occupied by the Immaculate Conception School along the river at Water and Third Streets.

The archeological investigation did not call for any test borings in this area.

The locations of these steam saw mills is clearly indicated on the 1862 map and on an 1872 map of Lock Haven (Wagner 1979:105). A lithograph of Bailey and Thorn's Steam Saw Mill (1857 Lock Haven Map) shows the size and scale of these operations. *This map is out of the project area*
Virtually all of the structural elements were wood, with the exception of a large brick chimney. (See also photograph in Wagner, page 185) Mill machinery would likely have been moved from the site when the operation ceased shortly after 1900. It is likely that some remains of the brick chimney of this mill and one immediately west of it are buried at the site. A heavy foundation would have been necessary for these chimneys; similar foundations would have been required for the heavy machinery. Remains of the brick works can only be conjectured due to the presence of the Immaculate Conception School and a paved parking lot at the site.

b. Vesper to Race Street: Along this section of Water Street are located some of the most aesthetically interesting features of the community. The Halsey House represents a restored Victorian mansion now operated as a museum by the Clinton County Historical Society. (Plate 4) Its quaint iron fence frames a most picturesque view of the River. (Plate 5) Next to the Halsey House is the Great Island Presbyterian Church now converted to office use, built in 1850 in the Greek Revival style. With Halsey House, this edifice creates a most impressive scenic appearance from the opposite side of the West Branch and from craft in the River. (Plate 6)

The Locks Park promenade is also located along this section of Water Street,

forming a perpendicular band of green space that both preserved the route of the early canal and forms a public park linking a number of interior streets and the riverfront. From any point within this promenade the view of the River is aesthetically pleasing, highlighted by the presence of the Lock's historic monument.

(Plate 7) The massive stone lock still juts from the bank along the River. The angular stone, rolling contours of the bank, a row of ornate cast iron light standards transferred from Main Street forty years ago, and the tree-lined street form an integrated visual landscape from Riverbank Park. (Plate 8) A small gazebo adds to this picturesque landscape.

Moving eastward on Water Street near the Jay Street Bridge, three early dwellings embody the appearance of the City in the 19th century. The Mackey House (1854) at 201 East Water Street, represented the first deliberate use of Italianate design elements in Lock Haven; they would become a major design motif. The porch at the rear of the Mackey House embodies the most ornate qualities of the Italianate design, most particularly in the intricate railings on the second story, a later addition (1857), and the decorative archwork at the head of the vertical columns. (Plate 9) This emphasis

on the rear of the dwelling reflected the resident's desire to relate more directly to the river. The porch and the home are still intact. A recently completed study of Lock Haven architecture discusses this building in detail. (Wagner 1979:36-37)

An equally significant residence is the Jacob Graffius house, 217 East Water Street, two doors from the Mackey residence; the balustraded balcony above the front door was virtually identical to that of the Mackey House. In later years several additions were made to the rear of the building, where a restaurant was housed until 1975. These structural additions are neither aesthetically appropriate nor historically significant.

The small park between the Graffius House and Jay Street Bridge--an extension of

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should be adequate
for survey level information

the riverbank municipal park east of Jay Street--contains several historical markers placed there by the City to commemorate participation and recognize those who died in the two World Wars. They have become an intrinsic part of the landscape. (Plate 10)

The County Courthouse overlooks this park, dominating the integrated landscape of riverbank and water and providing a dramatic and symbolic upward thrust to the largely horizontal built environment. This Italian Villa structure designed by the noted Lock Haven architect, Samuel Sloan, has two graceful but uneven towers which have become a regional landmark. (Plate 11)

IV. Impact on Historic Structures and Environment: Immediate Project Area

The impact of the proposed wall-levee system on the historic structures and landmarks in Lock Haven will be predominately visual: one of scale, proportion, and proximity. The visual presence of the wall in some quarters, particularly along Water Street where the street is in close proximity to the river--between Fifth and Sixth Streets east of Jay Street--and will intrude on the historic character of individual structures and the built environment. However, with the possible exception of the Mackey Carriage House, historic structures will not be razed or structurally violated by the proposed alignment of wall and levee described below.

The projected alignment calls for the greater use of levees along the Susquehanna River than those measures proposed in 1975. Specifically, in the following portions: 1) Lusk Run to Vesper Street; 2) east of Race Street to the end of Airport Runway; 3) industrial area. From Vesper to Race Street a wall becomes the protective structure.

Therefore, the major problem confronting the project designer is how to minimize the loss of existing spatial relationships between early still extant buildings and the natural environment, the River and nearby mountains. Lock Haven stands at a sharp bend of the West Branch of the Susquehanna River, at a point where rugged mountainous terrain to the north gives way to a narrow low-lying valley. At the tip of Great Island the Susquehanna meets the meandering Bald Eagle Creek. It is the scenic vistas as much as any other single factor that has given this community a sense of the past and created much of its charm and character.

1) Commercial

A number of commercial structures on the River side of Water Street west of Sixth Street will be razed if the proposed alignment is followed. These buildings

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are desirable commercial locations. A dental office at 607 West Water Street is located in an old frame structure that has been substantially remodeled; its loss would be of minor significance. The other buildings are historically unimportant.

2) Industrial

The levee portion would extend eastward from Constitution Bridge along the river until it reaches the McCormack homestead; at that point it cuts due south toward Bald Eagle Creek where it is interrupted first by the railroad embankment and then by the proposed Lock Haven By-Pass. The McCormack House is historically important and should not be disturbed by the project. As the levee continues westerly along the highway, it is completely confined to the highway right-of-way and therefore would not impact on the aesthetics of this region. The mountain south of Lock Haven rises well above the line of vision that will be cut off by the levee in the vicinity of Bald Eagle Creek. Proceeding westerly then northerly to Flemington, the levee occupied the land between the industrial waste ponds and the Bald Eagle Creek. The land in this area is undeveloped and in a state of neglect. There are no historic structures in this area.

3) Residential

a. Lusk Run to Vesper Street: The increased use of levee along this sensitive shoreline will help to reduce the intrusive impact; wall will be replaced by an earth embankment which can be more compatible in appearance and texture with natural landscape elements. Its placement, size and scale, however, will create visual and aesthetic problems that should be mitigated. From Lusk Run to the end of the Lock Haven State College parking lot, the aesthetic impact is slight. Because the College occupies high ground, students and others will be able to view the river and scenic mountain vistas to the north. On the lower ground in the vicinity of the tennis courts and the science building, the levee will interrupt this northern vista. Likewise, pedestrians and motorists driving along Water Street west of Fifth

Street will no longer experience this perspective of the Susquehanna as it cuts through the mountains. The visual and physical setting, the relationship between the City and the river will be altered by the size and scale of the levee. It is important to design ^{open} dedicated space on top of the levee from which people can view the river and mountain vistas to the north. The physical presence of the river can still be felt, though the activity is now recreational and not commercial.

The loss of the Piper home on Water Street between Fourth and Fifty Streets to make way for the levee is regrettable. Its contemporary design and strategic placement at a bend in the river give this home architectural distinction, one of the few good examples of modern architecture in the City. (Plate 12) The aesthetic and historic loss in terms of other buildings to be taken along this section of the levee is minimal.

The levee will traverse the deep back yards of Historic District properties from Third to Mill Streets along Water Street blocking the residents' view of the river and splitting the wooded landscape that now forms a visual and aesthetic unity of land and river. The fourteen foot levee will not be greatly out of scale in terms of the total expense. But in some 17 back yards, where it encroaches on porches, recreation decks and special purpose rooms added to take advantage of the view, the levee will be an intrusive element, potentially disrupting a lifestyle of the residents as well as the view for approximately 20 families. The homeowners in this area have been most vocal in their opposition to the flood protection system for Lock Haven. Their views have been expressed to the Corps of Engineers, to representatives of Woodward and Deans, the Environmental team, and to the cultural resource investigator. In part as a result of their concerns, a levee was identified as more compatible with the natural landscaping of the deep back yards. Additional landscaping features should be incorporated in the design phase to mitigate the impact.

The levee at its terminus on Vesper Street will almost touch an abandoned eighty-foot, rectangular, two-story, brick commercial structure built in 1906. Last occupied by the Clark Printing Company, the building has no historic merit; because of its structural deficiencies--a sagging foundation--it should be razed.

b. Vesper to Race Street: The wall portion of the flood protection system will begin at Vesper Street and extend slightly beyond Race Street near Constitution Bridge. On both sides of Jay Street Bridge the presence of a wall poses sensitive aesthetic and historic problems. East of the bridge there are two primary concerns: elimination of the view and encroachment on significant historic structures, most notably the Great Island Presbyterian Church and the Heisey House historical museum.

The two-story brick garage building (now empty) dating from the 1930's would be razed; there is no architectural merit in this simple block building; nor historic significance.

The razing of a section of the Fallon Hotel complex poses no historic loss, since the two-story cinder block structure built in 1970 is inconsistent with the historic Fallon Hotel 30 yards to the south. But the view from the river side of the motel is most striking: of the mountains to the north, Lockport and the wooded ridge across the river and the Jay Street Bridge and mountain ridges to the east. From few vantage points is the sweep of the river more visually appealing. The loss of this vista can be mitigated by incorporating a scenic overlook into the design of the wall.

As the wall passes to the rear of the historic Hackey House, it will be between 16 and 18 feet high, a significant height in terms of its scale and proximity to the three historic homes immediately west of the Jay Street Bridge and to the monuments in the municipal park. Aesthetically and Historically this is a most sensitive location (see Plate 9); it is important that the design and textural elements of

the early brick homes be incorporated into the wall facade. An unrelieved concrete surface would create visual discontinuity with this historic landscape. The loss of a frame carriage house at the rear of the Mackey House is to be avoided, if possible, either by moving, or repositioning the structure on the grounds. Please see discussion on this structure in Appendix I.

Grading of the park to provide an upward slope where it meets the wall can reduce the overbearing quality of the wall. Carrying the memorial/monument theme into the surface design and texture of the wall would help to create an alternative design enclosed landscape, a mitigation for the natural environment that is lost.

East of the Jay Street Bridge the impact of the wall is even more pronounced. The wall will become a concrete barrier, disturbing a delicate equilibrium between nature and the built environment and altering historic spatial and visual relationships between people and the river. The proposed alignment--on the river side of Water Street--would physically disturb the park. It is along this section of Water Street that the sloping riverbank, ornate cast iron light standards and stately trees create a harmonious streetscape of private dwellings, apartments, and historic structures. (Plate 8) Locating the wall outside the curb line on the river side of Water Street will reduce the wall's impact on these homes, particularly the sense of scale.

One of the most significant historic elements, in the author's opinion, is the relationship of the City and the river, a natural and continuous harmony--reflected in both the working and social lives of the town's inhabitants--that dates to the earliest settlement in 1787; it was reinforced by the logging activity along the riverfront from 1833 to 1900 and by the commercial and communal importance of the canal and lock below the Jay Street Bridge. It was reinforced also by the importance of the Jay Street Bridge and the close relation between early Lock Haven and Lockport. Homes east of Jay Street faced the river to take advantage of the view.

and the open green space along the river. An historic visual harmony is attested to by the fact that Canal Lock Promenade and the Municipal Park along the riverbank are considered basic recreational and historic green belt in the City's comprehensive plan. (Baker 1977:147 map) The symbol of that harmony is represented in the present by the well preserved stone canal lock just below Jay Street. This space would certainly qualify for landmark status. The wall would place a barrier between the street and the river, destroying the continuous physical and visual landscape that now exists. That impact is irreversible, but it can be mitigated in several important ways: 1) developing textural wall components that reduce the sterile qualities of unrelieved concrete; 2) creating openings in the wall to provide permanent physical ingress and egress to the riverbank as well as some visual continuity between the streetscape and the river (these should be located at Jay Street Bridge and opposite the Heisey House); 3) incorporating warps in the design of the wall to alleviate the straight unbroken line; 4) landscaping both sides of the wall to replace trees that are lost as a result of the project, relieve the symmetry and predominately neutral color of the wall; 5) creating a parkscape outside the wall that incorporates as many of the visual and physical features that have been lost as possible. A newly designed Riverbank Park could insure a prominent place for the historic remains of the Canal Lock, a unique aesthetic element of the landscape as well as a National Register landmark. The five ornate light standards of the 1920's should be repositioned either as lighting along Water Street or perhaps incorporated into the Lock's Promenade. The gazebo also should be retained in the new landscape as a symbol of Lock Haven's Victorian adaptation.

It is important to retain several intrinsic qualities of the existing landscape, in particular the historic relation of river and landscape, the natural harmony between man and the environment. This landscape makes people feel close to the river and the natural environment, inviting participation both active and passive.

In part, these concerns can be mitigated by openings at Jay Street bridge and Heisey House which permit people to move "through" the wall. But, along the expanse of the wall, overlooks should be designed into the structure to maintain the participative character of the environment. People should be made to feel a part of the wall just as they were formerly a part of the existing landscape.

Structural Design

The physical design of the structure will have a major impact on the wall-levee project. While the structure must obstruct the view of the river, an adverse effect, there are many ways to mitigate this effect. The architecture of the wall-levee must be responsive to both the functional and aesthetic needs of the community. To consider either of these unrelated to the other is to ignore opportunities for the maximum enrichment of the historic area. These factors must be dealt with if the structure is to have a positive cultural and aesthetic impact on Lock Haven and surrounding communities.

Breaking the scale: the wall-levee is by nature a massive object, hence a major intrusion on the relatively small scale of the historic built environment. If the structure is to avoid intruding on the historic structures, this massive scale must be broken down. There are a variety of means available toward this end, all of which must be investigated during the course of the design process.

Some ways in which scale can be reduced are:

- 1) the surface of the structure may be divided into a series of "bays", sized in relation to the scale of existing adjacent buildings, pedestrian scale, and other objects.

- 2) the surface of the structure should be colored and textured in a manner that is appropriate to the existing community fabric and which helps to make the structure appealing in a tactile and visual sense.

3) various required structures and amenities can be attached to the wall to help reduce the appearance of extreme height and length. For instance, planter structures and seating can be designed into, or onto, the surface of the structure to lower visually its height, while modulating its lengthy appearance. Required structures such as pumping stations can be attached to the wall with the effect of breaking down the scale of the structure and at the same time making these service buildings seen less obtrusive. Lighting, attached to the wall--and distributed along the levee--can be a major scaling element.

Another important scaling element is the stair or ramp structure which climbs up and over the structure at intervals. Scenic overlooks cantilevered over the wall offer a creative structural alternative to the consistent linear plane of the wall. Openings achieve the same objective and alleviate the continuous effect of the wall. The opening itself becomes a large window on the natural environment, assuring some breathing space for an otherwise closed structure.

Such scaling elements as lighting, stairs, and surface treatments can serve another purpose. These design features can extend the architectural character of the community into the architecture of the structure. The surface may be textured as a background; at strategic points along the wall, a variety of meaningful images can be cast directly into, or be attached to, the surface of the concrete. These might include: signage, information systems, pictorial reliefs--featuring historical events and current outstanding features of the community (not unlike a time capsule). Such an approach would require careful design and planning as well as intensive involvement by the community if it is to be lasting and appropriate.

V. Historic District Status

The Water Street District in Lock Haven was entered in the National Register of Historic Places on July 10, 1973. The National Register is the Nation's official list of properties which are worthy of preservation because of their significance in history, architecture, archeology, and culture. The boundaries of this district are shown on the accompanying map (Plate 15).

The points of significance for the Water Street District identified in the inventory-nomination form are:

1. The district contains fine examples of 19th century architectural styles, specifically those of the Victorian era.
2. The district is still relatively intact geographically.
3. Nearly all the significant structures are in a good state of repair.
4. Modifications on the existing structures has not been radical except for a few buildings in the central business area.
5. The lumbering industry which was developed by the owners of many of the dwellings in the district is of national importance.

An additional historic area which encompasses the John Sloan historic district has been proposed for inclusion on the National Register; abutting the existing district, it reaches to Washington Street on the east and Bald Eagle Street on the south. No formal nomination process is underway at this time, however. The area is shown on Plate 15. Structures not included in the Water Street National Historic District or the recommended additional historic area are identified on the accompanying map (Plate 16), numbers 133-141 inclusive. All other identified sites 1-132 are within the existing or proposed district. A complete description of the Historic District, including a brief architectural description of the most significant structures, appears in the Appendix of this report.

VI. A Preliminary Proposal for an Intensive Phase II Historical and
Artifactual Investigation

In the opinion of the principal investigator, further investigation is required in three specific areas as part of a Phase II intensive survey.

(1) Canal Lock: The precise dimensions and condition of the lock should be determined by a) historical examination of Pennsylvania Canal plans and/or drawings; b) examination of City utility and maintenance records and blueprints to identify potential intrusions; and c) on site measurements. The feasibility of integrating the Canal Lock structurally into the design of the wall should be examined by a consulting engineer. An architect and landscape architect should identify specific aesthetic design alternatives that are compatible with various structural options.

(2) Brick Works and Steam Saw Mills: There is some likelihood that industrial artifactual remains may be located at the site of the Queen's Run brick works and the steam saw mills. Maps and photographs will make it possible to pinpoint these sites.

Deep-probes focusing specifically on these sites should be excavated with a power auger; as a result of these probes, a decision would be made whether to institute a more extensive program of test pitting.

(3) Mackey Carriage House: The Mackey Carriage House, though altered somewhat from its original design, is part of a multiple historic resource that should be examined within the context of the main house. It should be appropriately repositioned on the site or documented as a most significant outbuilding.

(4) McCormack House: The McCormack House, or farmstead, would remain intact outside of the completed levee. Documentation is proposed in the event that increased velocity and water depth along the Bald Eagle Creek would have an adverse impact on the structure.

VI.

Table I A Preliminary Budget Estimate for Phase II Historical and
Artifactual Research

Canal Lock

Salaries - Canal Lock	
1. Principal Investigator - 40 hours @ \$15	600.00
2. Examination of Canal Plans and Drawings	
a. Research Technician - 20 hours @ \$10	200.00
3. Examination of local canal records	
a. Research Technician - 10 hours @ \$10	100.00
4. On Site measurements and sketching	
a. Research Technician - 8 hours @ \$10	80.00
5. On site determination of Canal foundation	
a. Equipment Operator - 16 hours @ \$8	144.00
b. Research Historian - 16 hours @ \$12	192.00
c. Research Technician - 8 hours @ \$10	80.00
6. Secretarial - 30 hours @ \$5	150.00
7. Draftsman - 10 hours @ \$7	70.00
8. Report Preparation - 24 hours @ \$12	288.00
9. Total Salaries and Wages	1904.00
Fringe benefits (18%)	343.00
Supplies	200.00
Equipmental Rental @ \$50 per day	100.00
Travel and Field Expenses	
4 days for Principal Investigator & Research Historian	
Historian	
1. Meals and lodging (4 x 2 x \$39)	312.00
2. Mileage (4 x 80 miles x .15)	48.00
Total Direct Costs	2907.00
Indirect Costs (61%)	1773.00
Total Costs - Canal Lock	\$4680.00

Brick Works and Steam Saw Mills

Salaries - Brick Works and Steam Saw Mills	
1. Principal Investigator - 30 hours @ \$15	450.00
2. Examination of local maps and photographs	
a. Research Historian - 8 hours @ \$12	96.00
3. Research of State and National records	
a. Research Historian - 37½ hours @ \$12	448.00
4. Analyze and review of findings	
a. Research Historian - 16 hours @ \$12	192.00
5. Secretarial - 30 hours @ \$5	150.00
6. Report Preparation - 24 hours @ \$12	288.00
7. Total Salaries and Wages	1624.00
Fringe Benefits (18%)	292.00
Supplies	100.00
Equipment Rental @ \$50 per day	100.00
Travel and Field Expenses	160.00
Total Direct Costs	2276.00
Indirect Costs (61%)	1388.00
Total Costs - Brick Works and Steam Saw Mills	\$3664.00

Mackey Carriage House

Salaries - Mackey House

1. Principal Investigator - 25 hours @ \$15	375.00
2. Examination of Local Records	96.00
a. Research Historian - 8 hours @ \$12	
3. On Site Documentation	192.00
a. Research Historian - 16 hours @ \$12	160.00
b. Draftsman - 16 hours @ \$10	
4. Study of Alternatives	288.00
a. Research Historian - 24 hours @ \$12	288.00
b. Engineering - 24 hours @ \$12	150.00
5. Secretarial - 30 hours @ \$5	288.00
6. Report Preparation - 24 hours @ \$12	1837.00
Total Salaries and Wages	

Fringe benefits (18%) 331.00

Supplies 100.00

Travel and Field Expenses

1. Meals and lodging (11 days x \$39)	429.00
2. Mileage (11 x 80 miles x .15)	132.00

Total Direct Costs 2829.00

Indirect Costs (61%) 1726.00

Total Costs - Mackey Carriage House \$4554.00

McCormack House

Salaries - McCormack House

1. Principal Investigator - 25 hours @ \$15	375.00
2. Examination of local records	96.00
a. Research Historian - 8 hours at @ \$12	
3. On Site Documentation	288.00
a. Research Historian - 24 hours at @ 12	300.00
b. Draftsman - 30 hours at @ \$10	
4. Study of Alternatives	288.00
a. Research Historian - 24 hours at \$12	288.00
b. Engineering - 24 hours at @ \$12	150.00
5. Secretarial - 30 hours @ \$5	288.00
6. Report Preparation - 24 hours @ \$12	2073.00
7. Total Salaries and Wages	

Fringe Benefits (18%) 373.00

Supplies 100.00

Travel and Field Expenses

1. Meals and Lodging (14 days x \$39)	546.00
2. Mileage (14 x 80 x .15)	168.00
(1 x 380 x .15)	57.00

Total Direct Costs 3317.00

Indirect cost (61%) 2023.00

Total Cost McCormack House \$5340.00

Total Budget Estimate \$ 18,239.

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1840
1850
1860
1870
1880

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1853
1871
1886
1893

Anne Hallenbake Ross Library, Lock Haven, Pennsylvania - on microfilm

Clinton Tribune

September 13, 1853

Anne Hallenbake Ross Library, Lock Haven, Pennsylvania - on microfilm

Church, Jereniah

1845

Journal of Travels, Adventures and Remarks of Jerry Church

Express

- | | |
|--------------------|---|
| July 3, 1976 | Lock Haven, Pennsylvania:
Bicentennial Edition |
| September 30, 1969 | A history of the industries |
| December 2, 1939 | Centennial edition |
| March 2, 1957 | 75th Anniversary edition |
- Furey, J. Milton
- | | |
|------|--|
| 1892 | <u>Past and Present of Clinton County</u>
Pennsylvania Grit Printing House,
Williamsport, Pennsylvania |
|------|--|
- Jones, Daniel R. and Mark Battaglia
- | | |
|------|--|
| 1976 | <u>Historic Streetscapes: A Study of New</u>
<u>Uses in Old Neighborhoods for Lock Haven,</u>
<u>Pennsylvania, State College, Pennsylvania</u> |
|------|--|
- Kline, Benjamin F. G., Jr.
- | | |
|------|--|
| 1971 | <u>Pitch Pine and Spruce Timber: The Logging</u>
<u>Railroads of South-Central Pennsylvania</u>
Lycoming Printing Company, Inc., Williams-
port, Pennsylvania |
|------|--|
- Linn, John Blair
- | | |
|------|--|
| 1883 | <u>History of Centre and Clinton Counties,</u>
<u>Pennsylvania</u> , Press of J. B. Lippincott
& Company, Philadelphia, Pennsylvania |
|------|--|
- Lower, Larry, David Weber, Harry Kitch,
and Stephen Israel
- | | |
|--|---|
| | General consultations with Baltimore Dis-
trict Corps of Engineers |
|--|---|
- Maynard D. S.
- | | |
|------|--|
| 1875 | <u>The Historical View of Clinton County by</u>
<u>Maynard</u> , Enterprise Printing House, Lock
Haven, Pennsylvania |
|------|--|

Meginness, J. S.

1857

Otzinachson or a History of the West
branch Valley of the Susquehanna,
Henry B. Ashmead, Philadelphia, Pennsyl-
vania

Miller, Isabel Winner

1966

Old Town: A History of Early Lock Haven,
Anne Hallenbake Ross Library, Lock Haven,
Pennsylvania

Piper Aircraft

1977

Piper Aircraft Corporation Annual Report
Lock Haven, Pennsylvania

July 1977

Piper Aircraft Corporation's Energy
Conservation Statement

1977

"From Cub to Cheyenne", the Story of
Piper Aircraft Corporation

Rosenberger, Homer Tope, Ph.D., L.L.D.

1975

The Philadelphia and Erie Railroads
Fox Hills Press, Potomac, Maryland

U.S. Government

1976

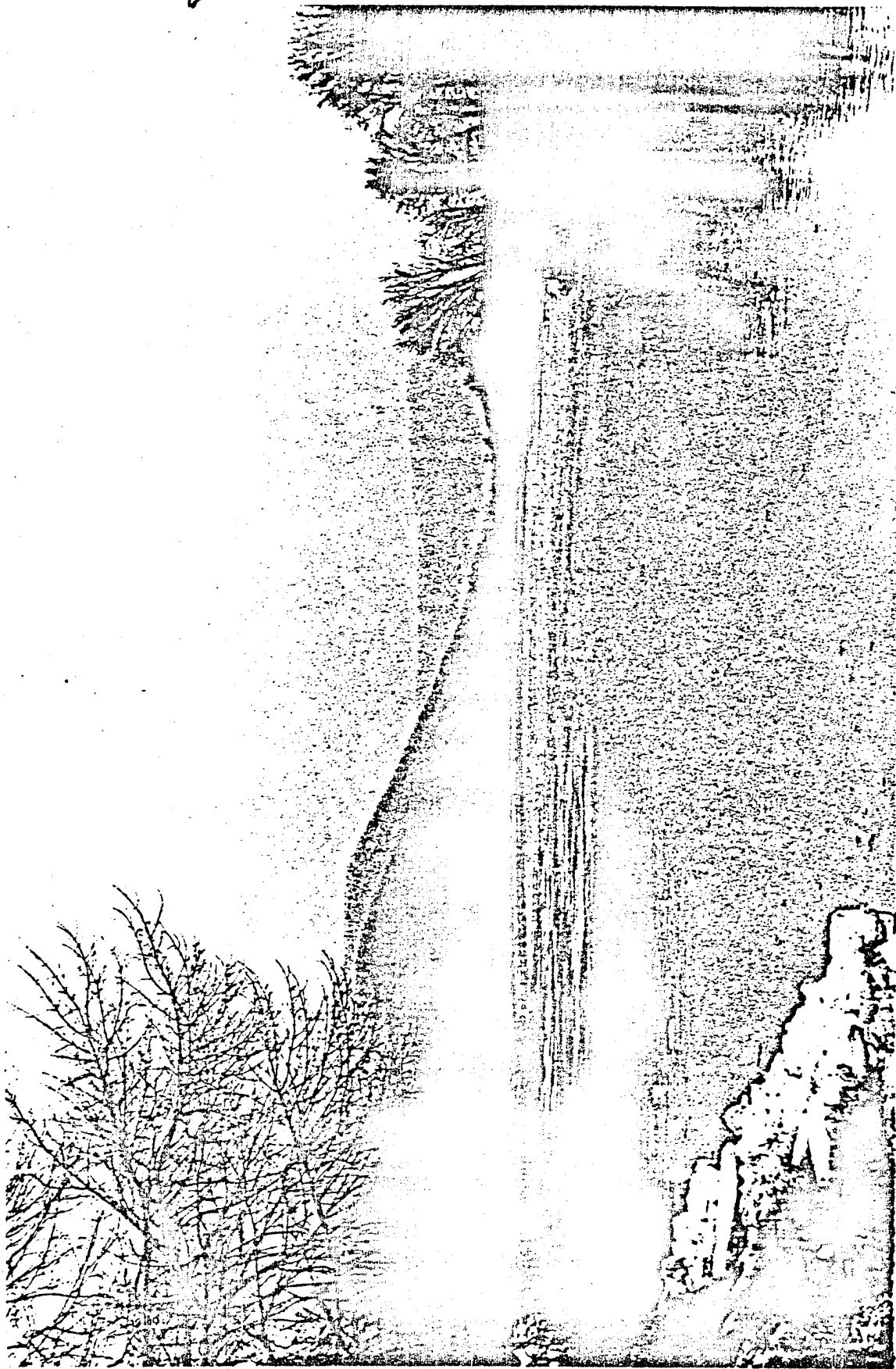
Communication from the Assistant Secretary
of the Army (Civil Works), Lock Haven,
Clinton County, Pennsylvania

Wagner, Dean (editor)

1979

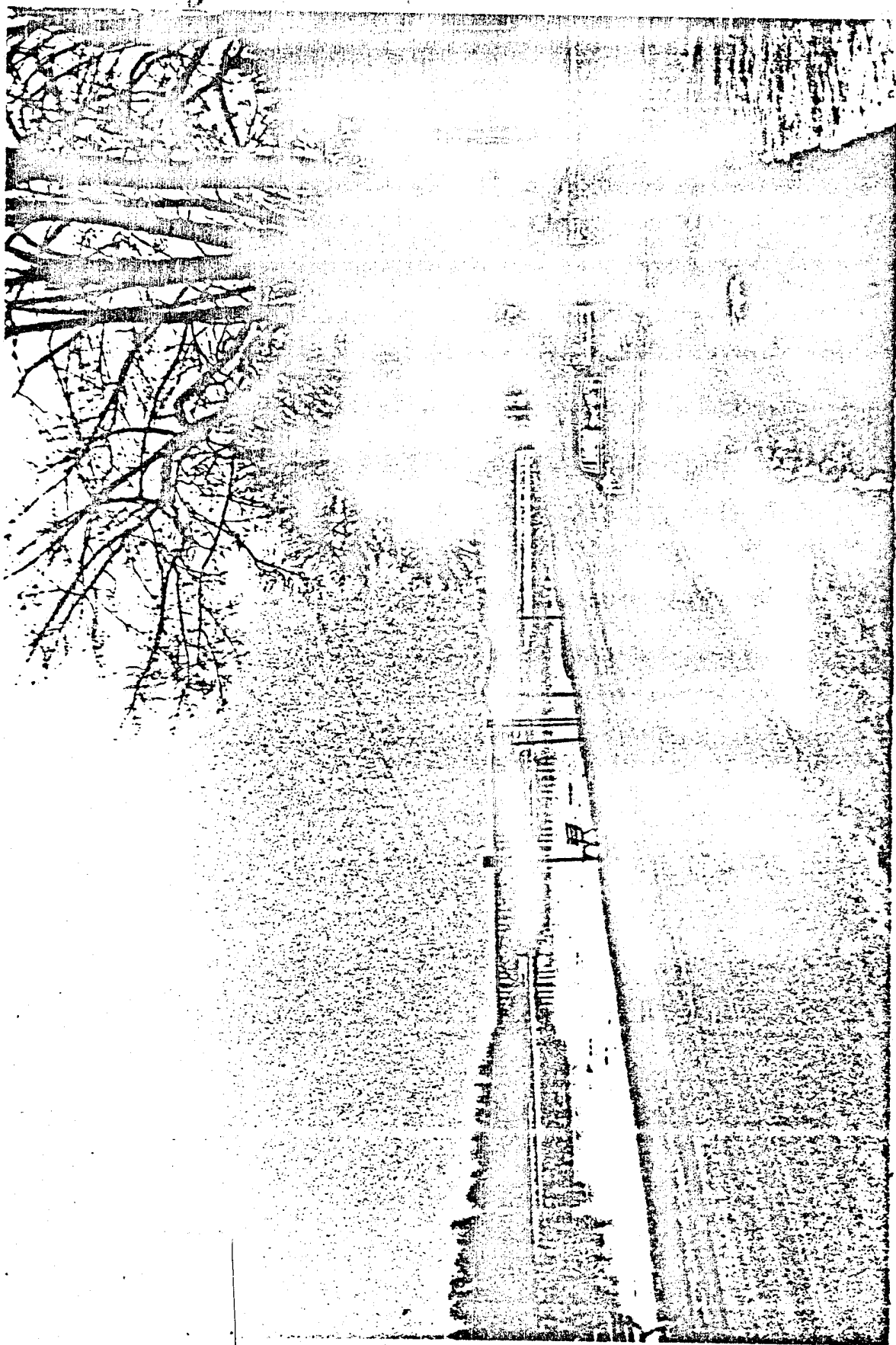
Historic Lock Haven: An Architectural
Survey, Josten's Publications, State
College, Pennsylvania

VIII. Plates
(Maps and photographs)



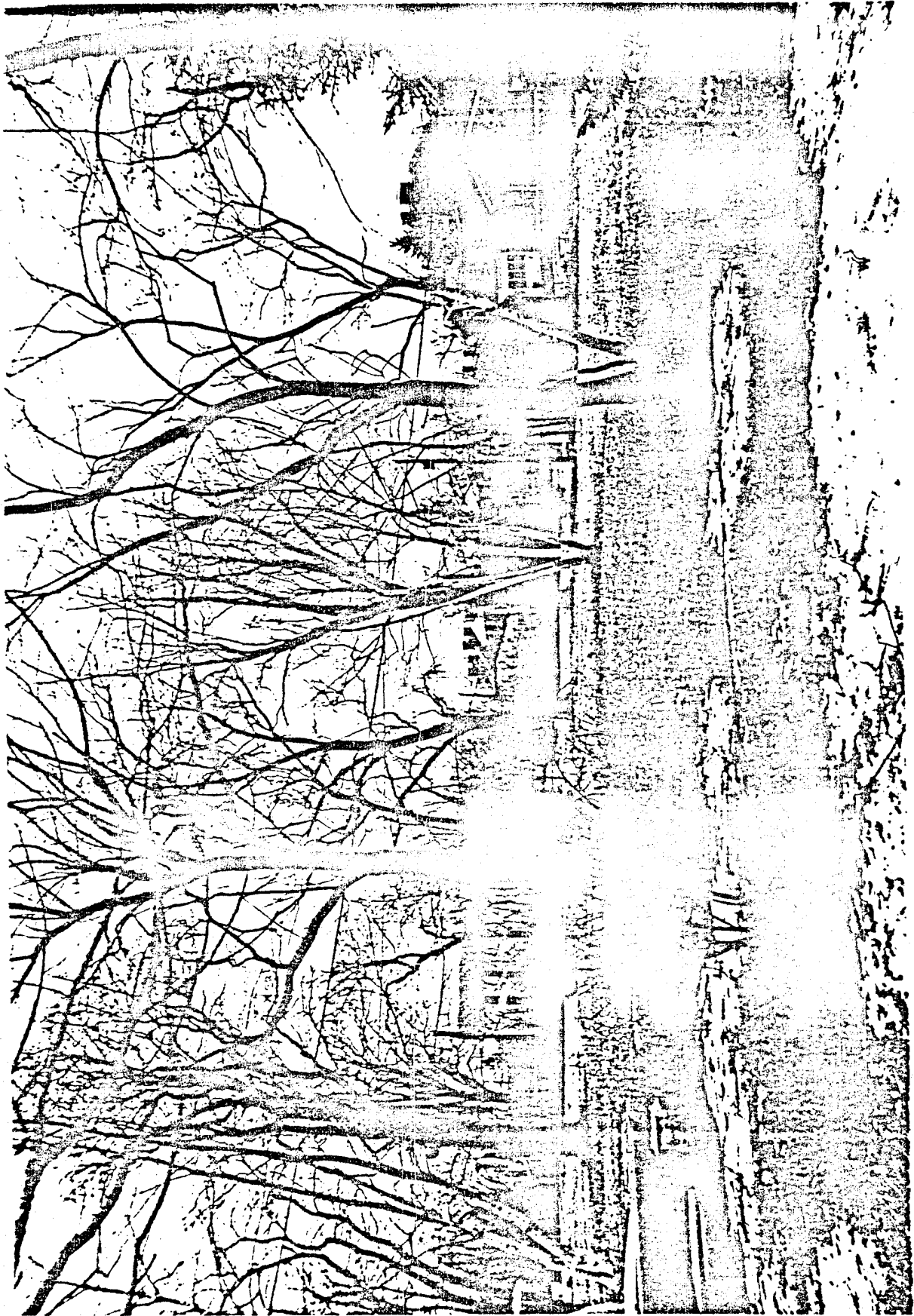
Scenic View to North

PLATE 1



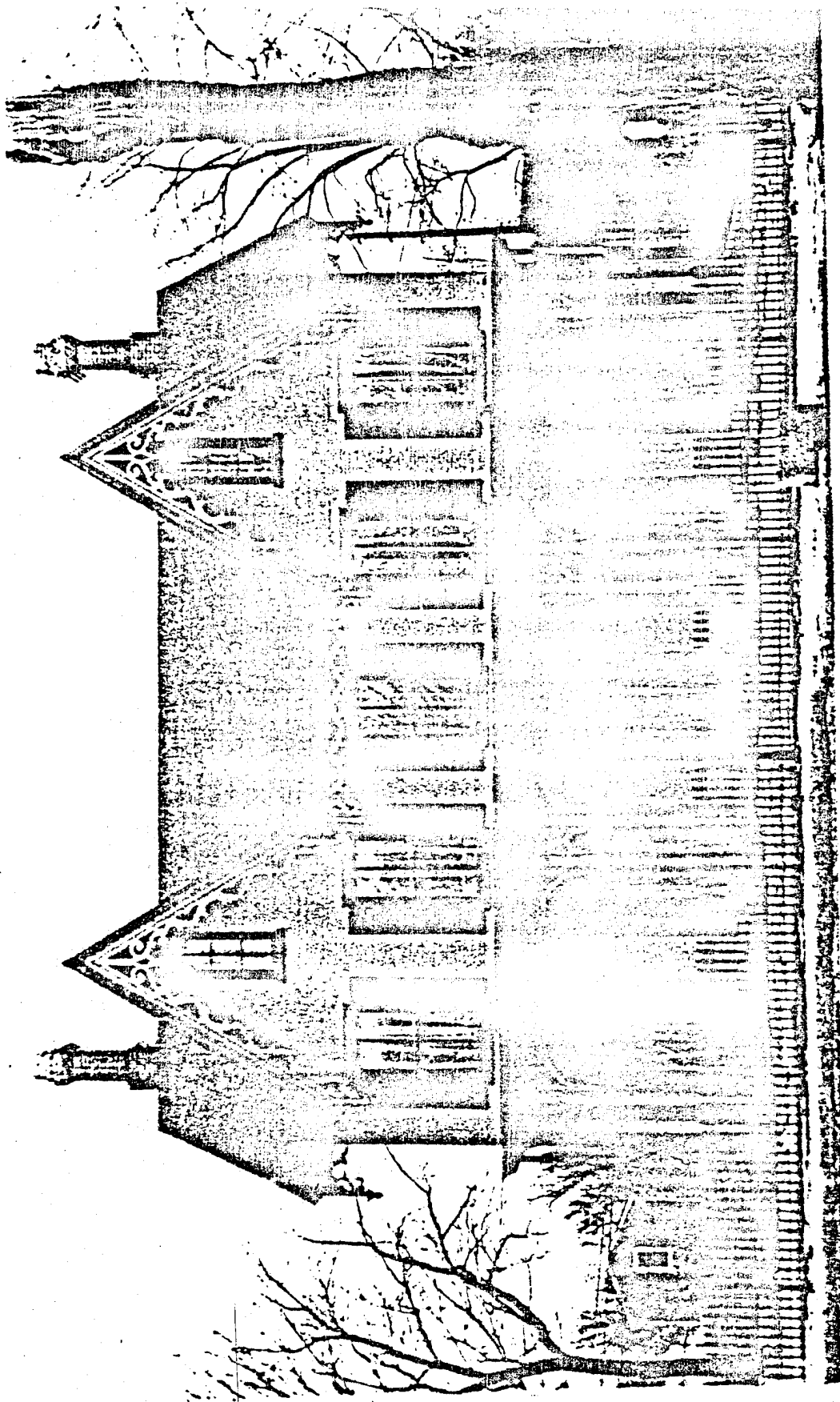
Landscape East of Jay Street Bridge

PLATE 2



Back yards of Historic Homes along River

PLATE 3



Heisey House

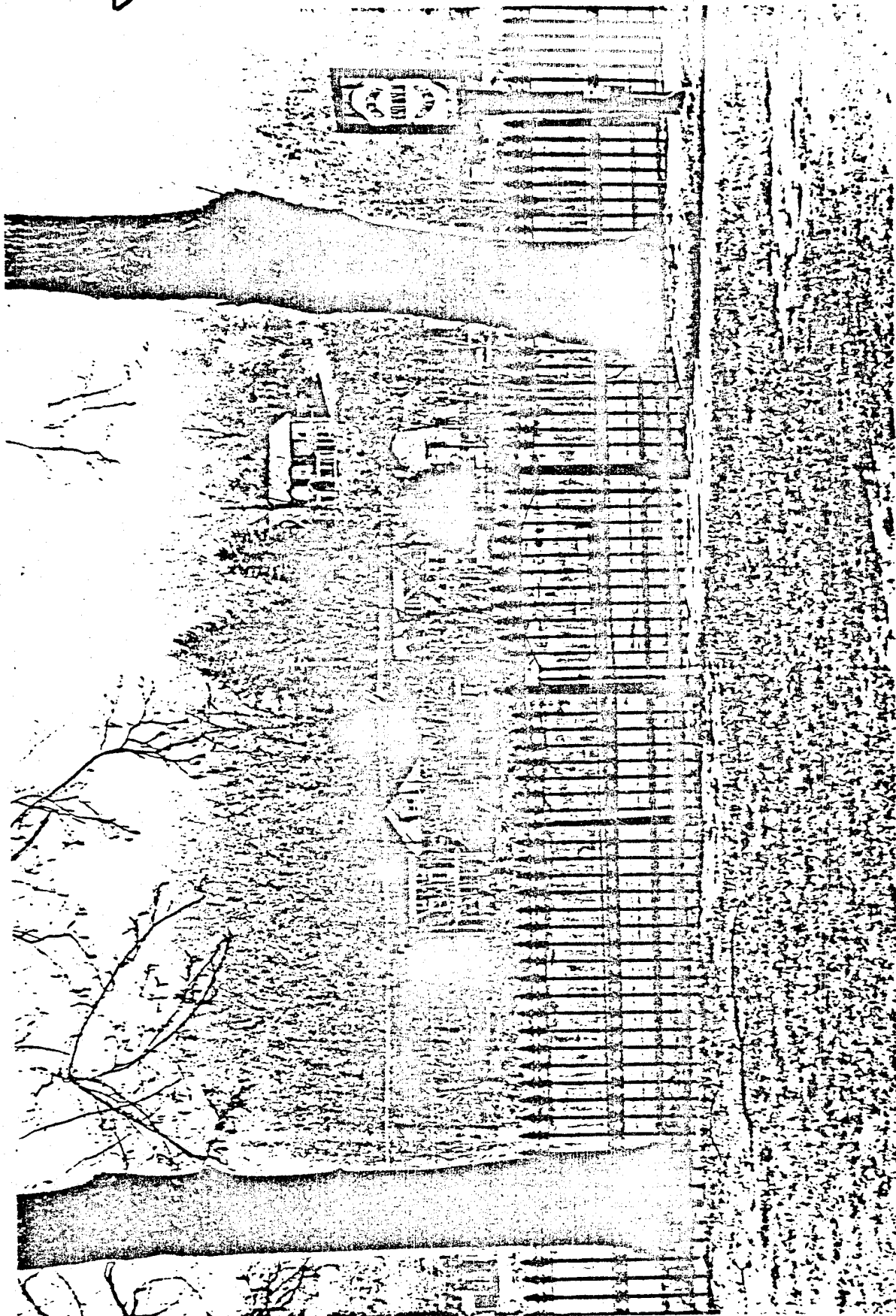
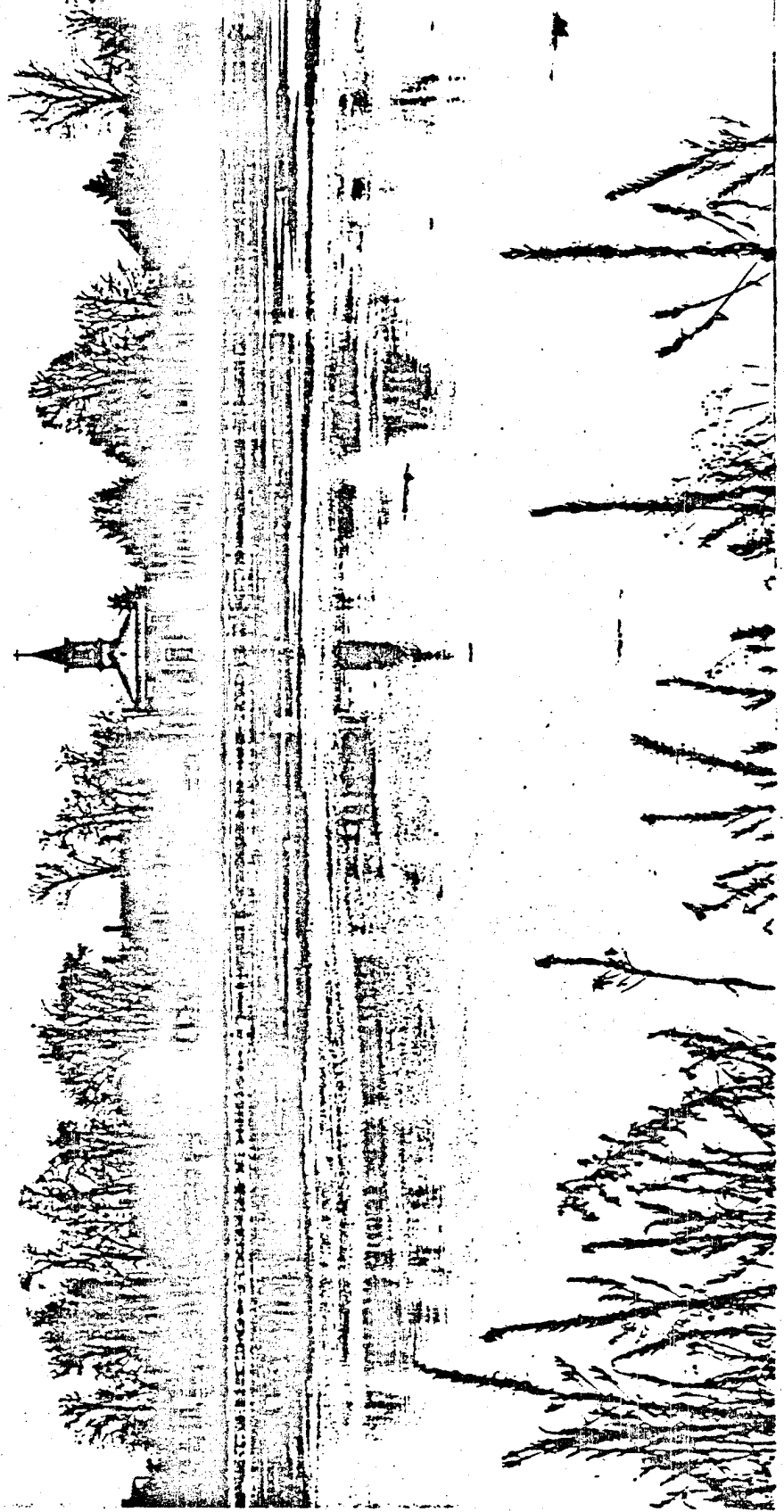
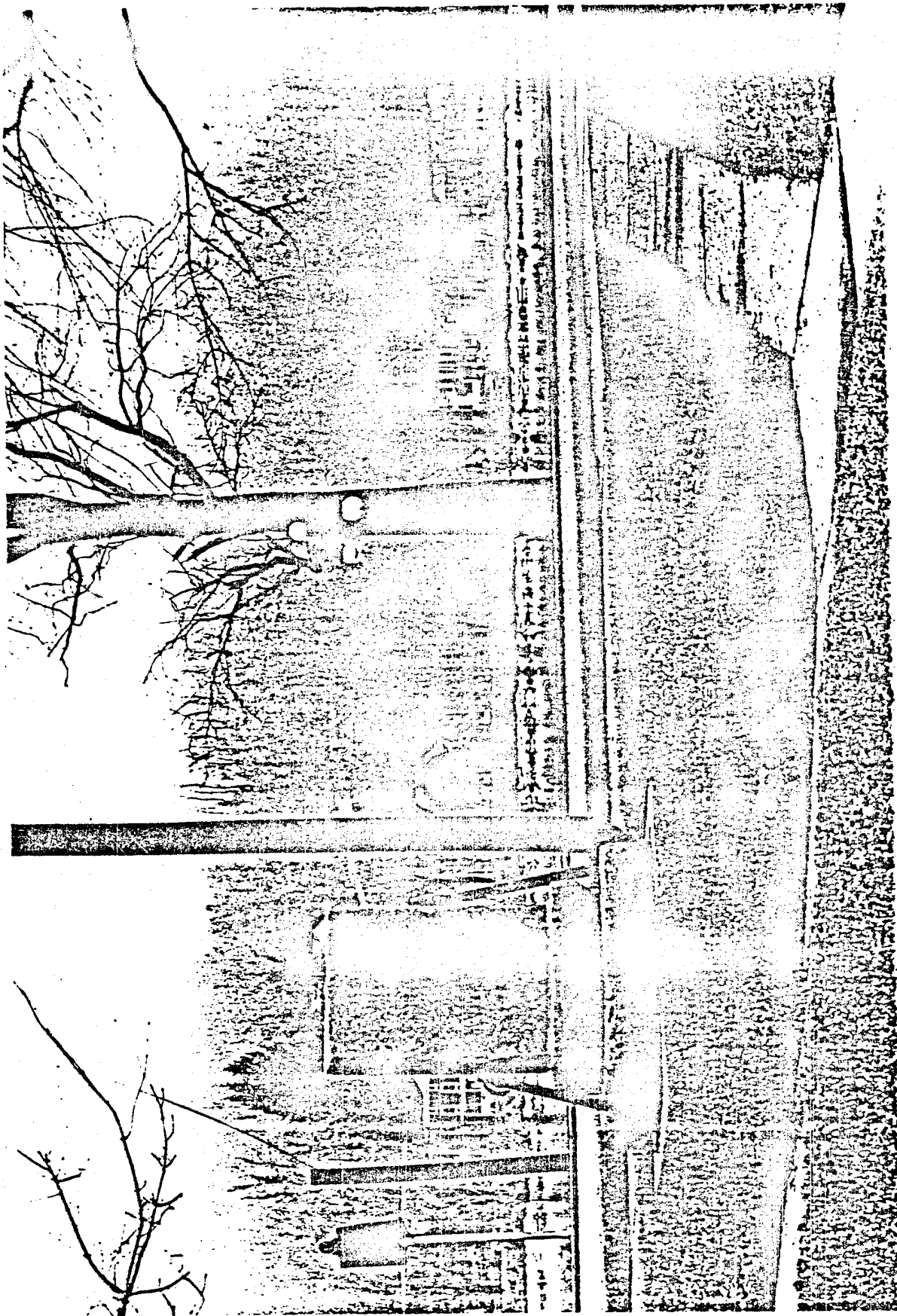


PLATE 5

View of River from Heisey House



View from Lockport

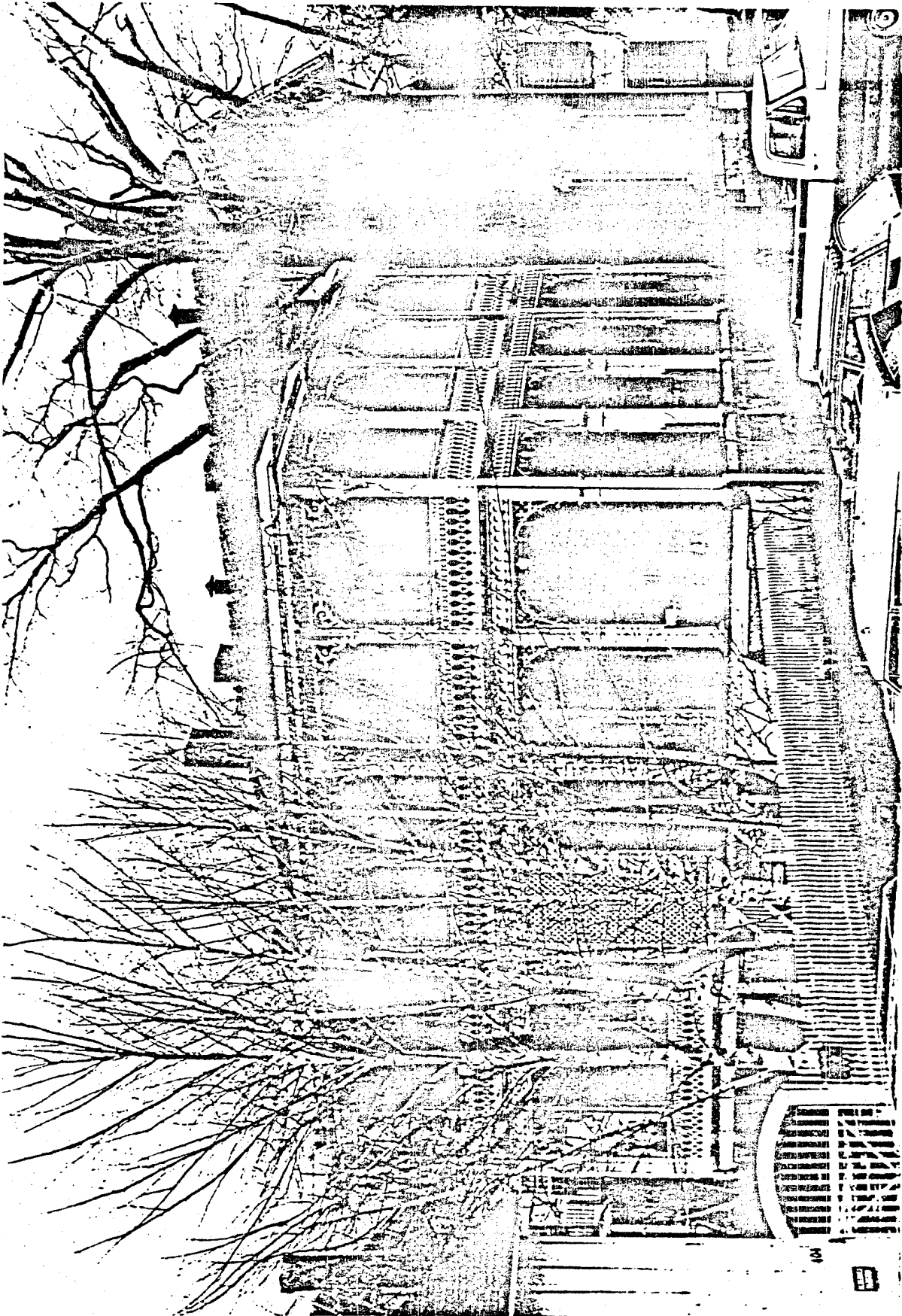


Canal Lock Promenade

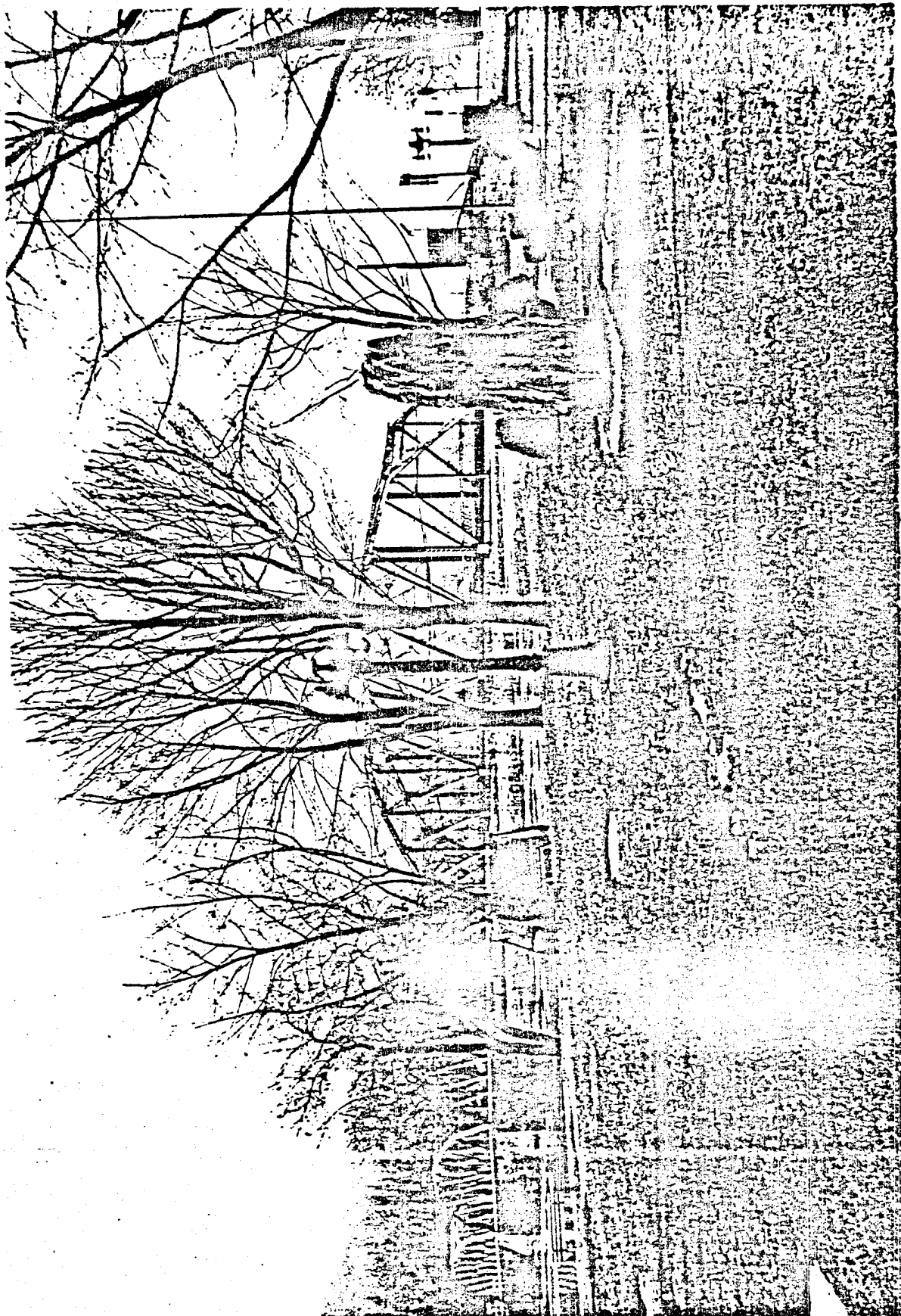


Riverbank Park Landscape

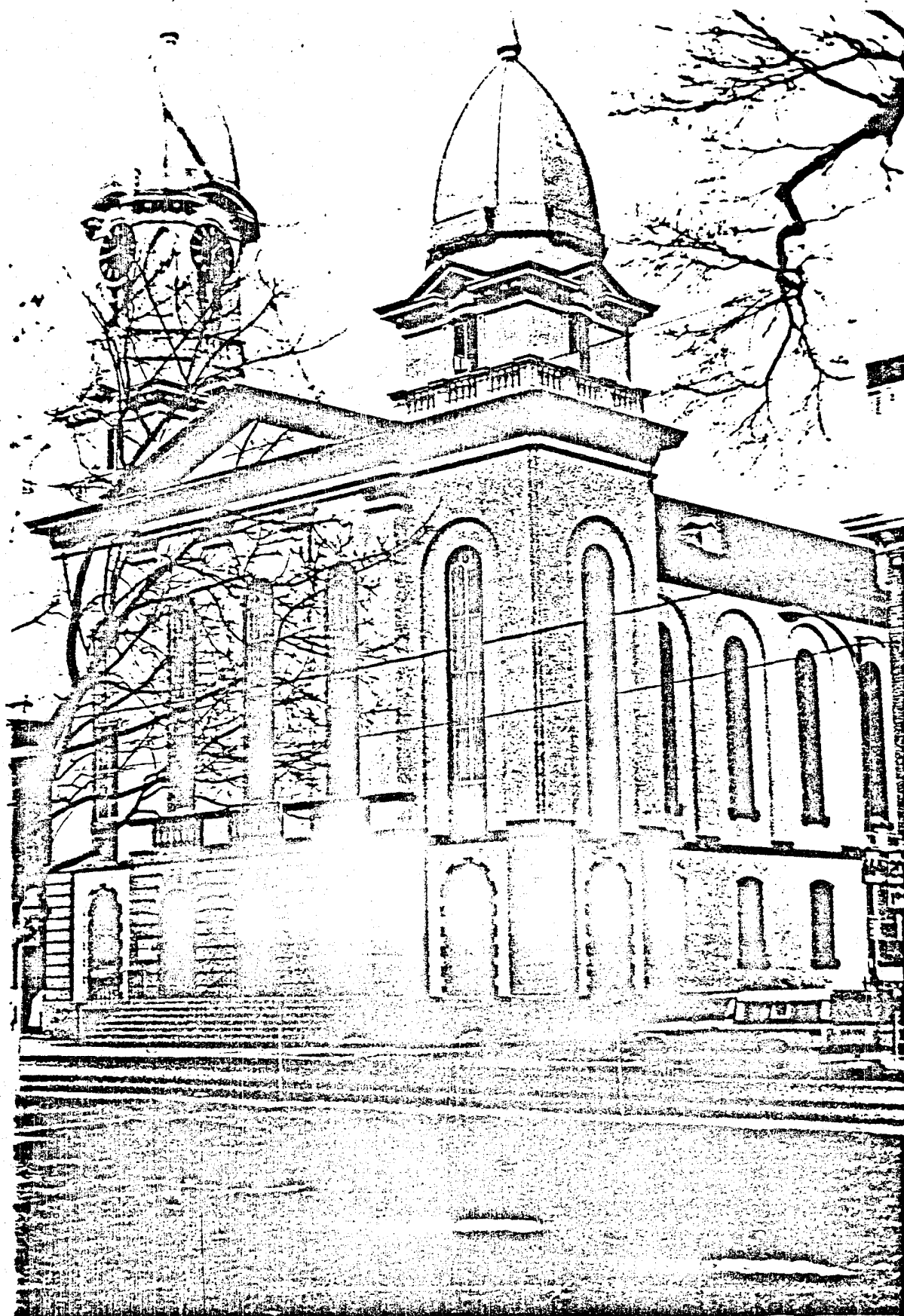
PLATE 8



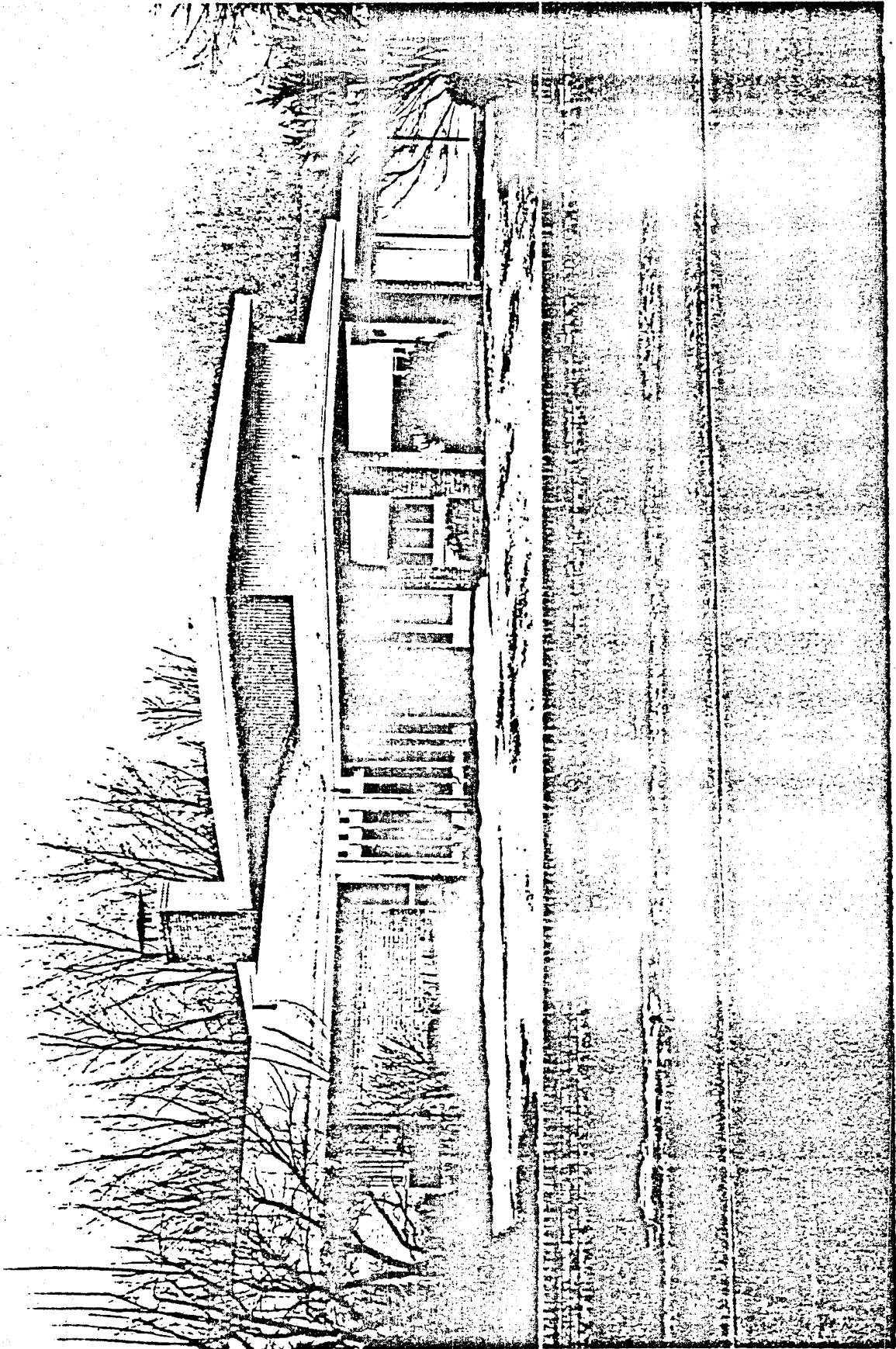
Mackey House



Historical Monuments

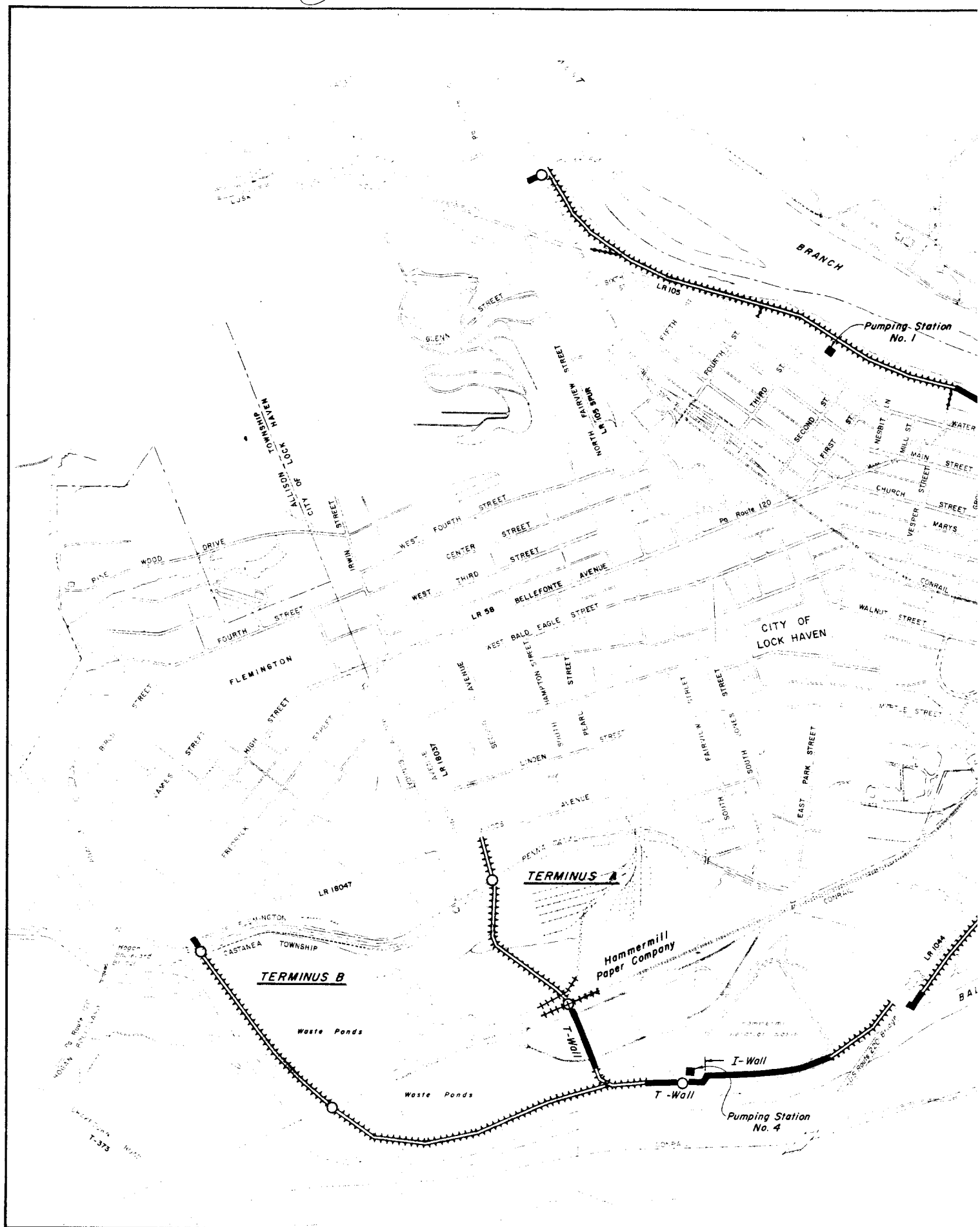


County Courthouse

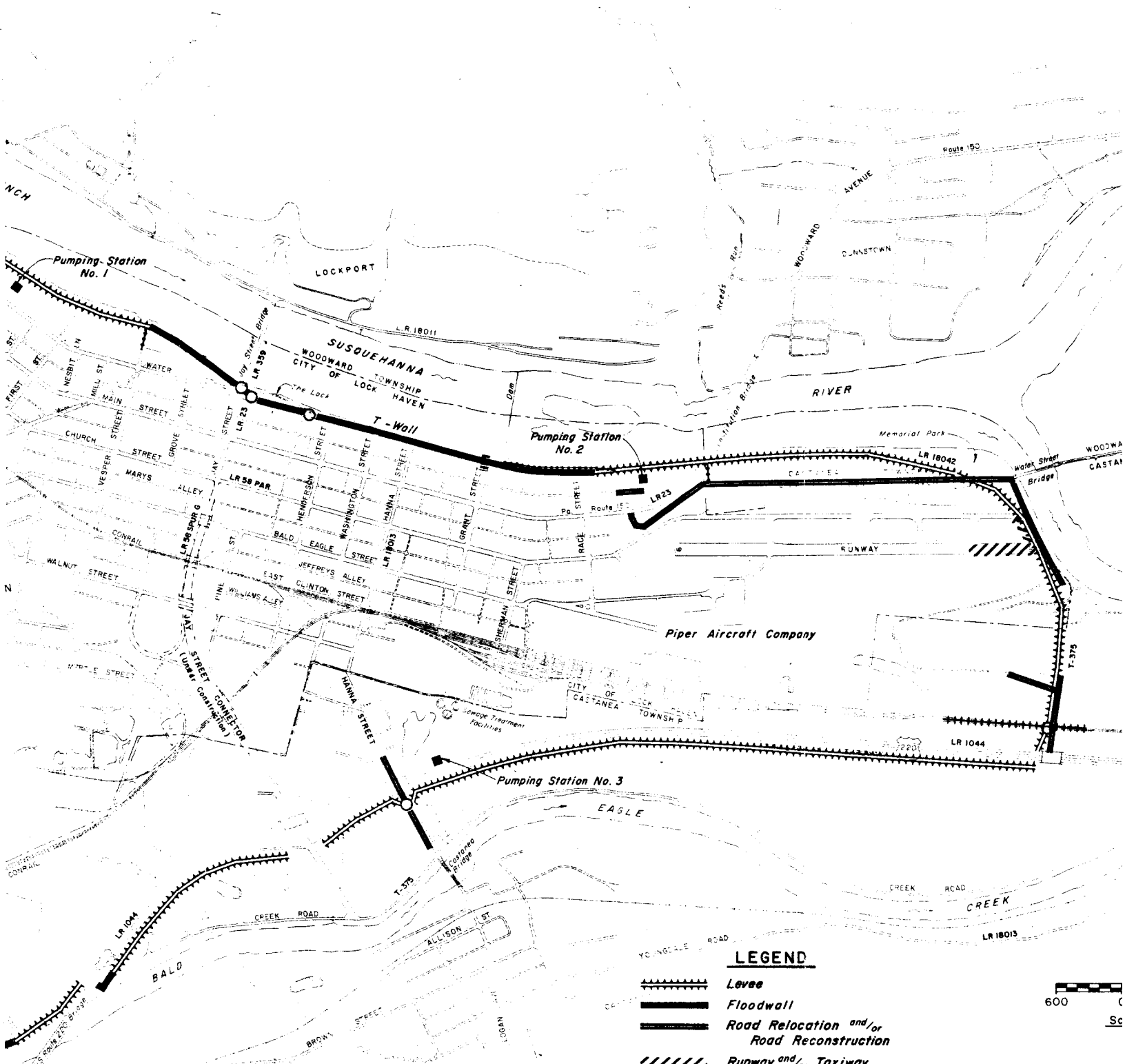


Piper House

①



2



LEGEND

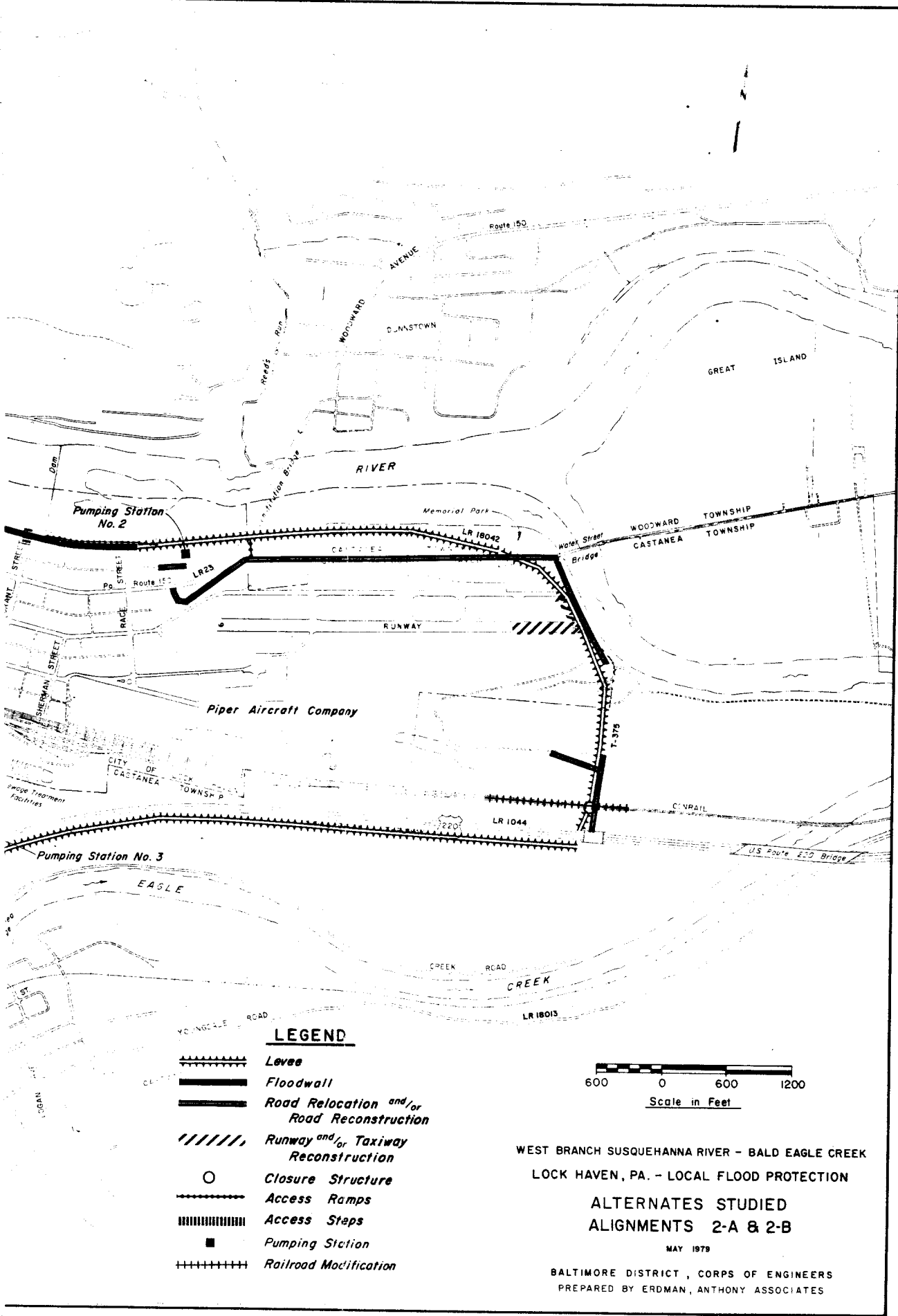
- Levee
- Floodwall
- Road Relocation and/or Road Reconstruction
- Runway and/or Taxiway Reconstruction
- Closure Structure
- Access Ramps
- Access Steps
- Pumping Station
- Railroad Modification

600
Feet

WEST BRANCH SUSQUEH
LOCK HAVEN, PA. -
ALTERN.
ALIGNME

BALTIMORE DIST
PREPARED BY ERD

3



LOCK HAVEN

NATIONAL REGISTER,
WATER STREET
HISTORIC DISTRICT

PROPOSED ADDITION
TO HISTORIC DISTRICT

SUSQUEHANNA

RIVER

Lockport

Piper Aircraft

Hobberman Salvage

American Aniline
Products

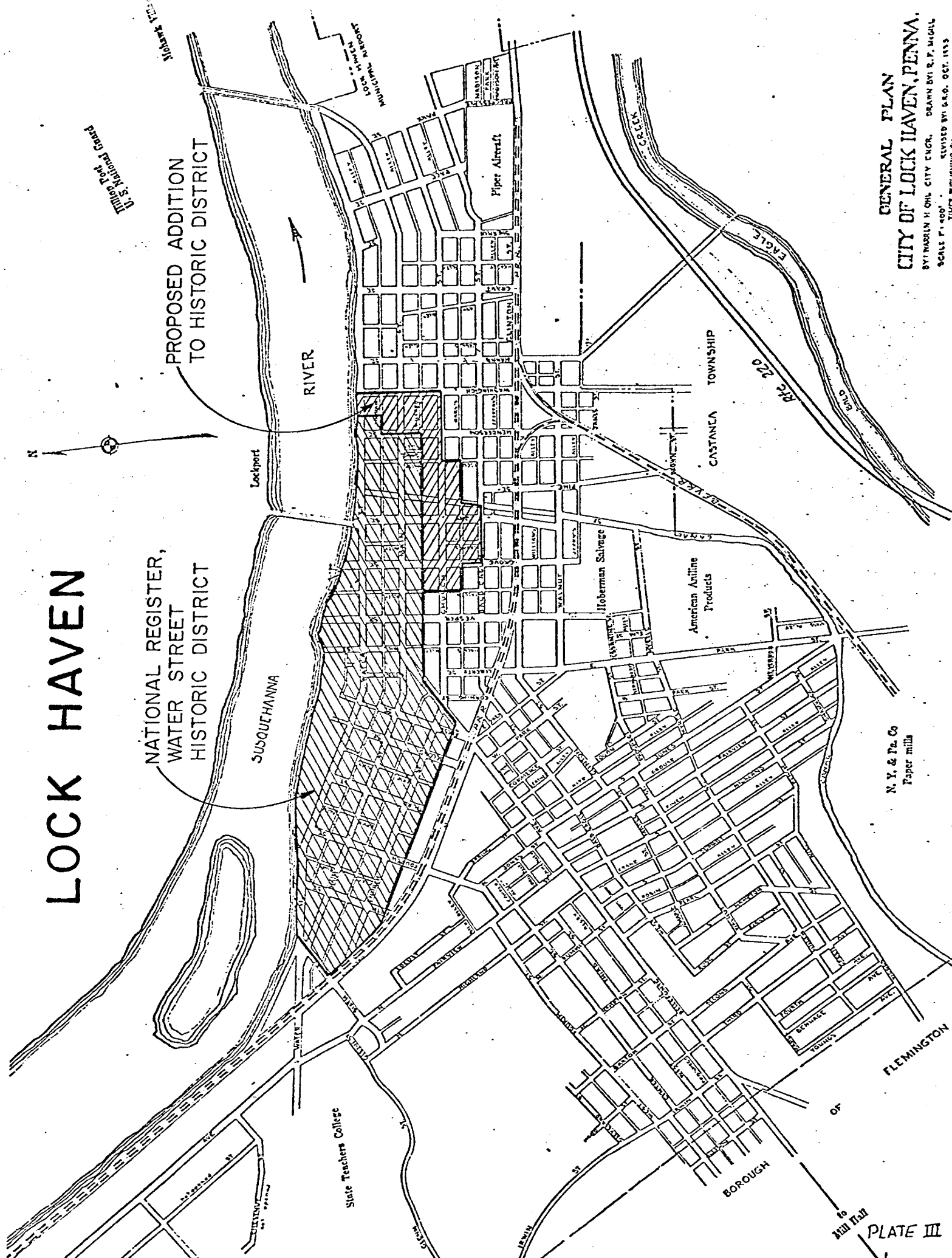
N. Y. & Pa. Co.
Paper mills

FLEMINGTON

BOROUGH

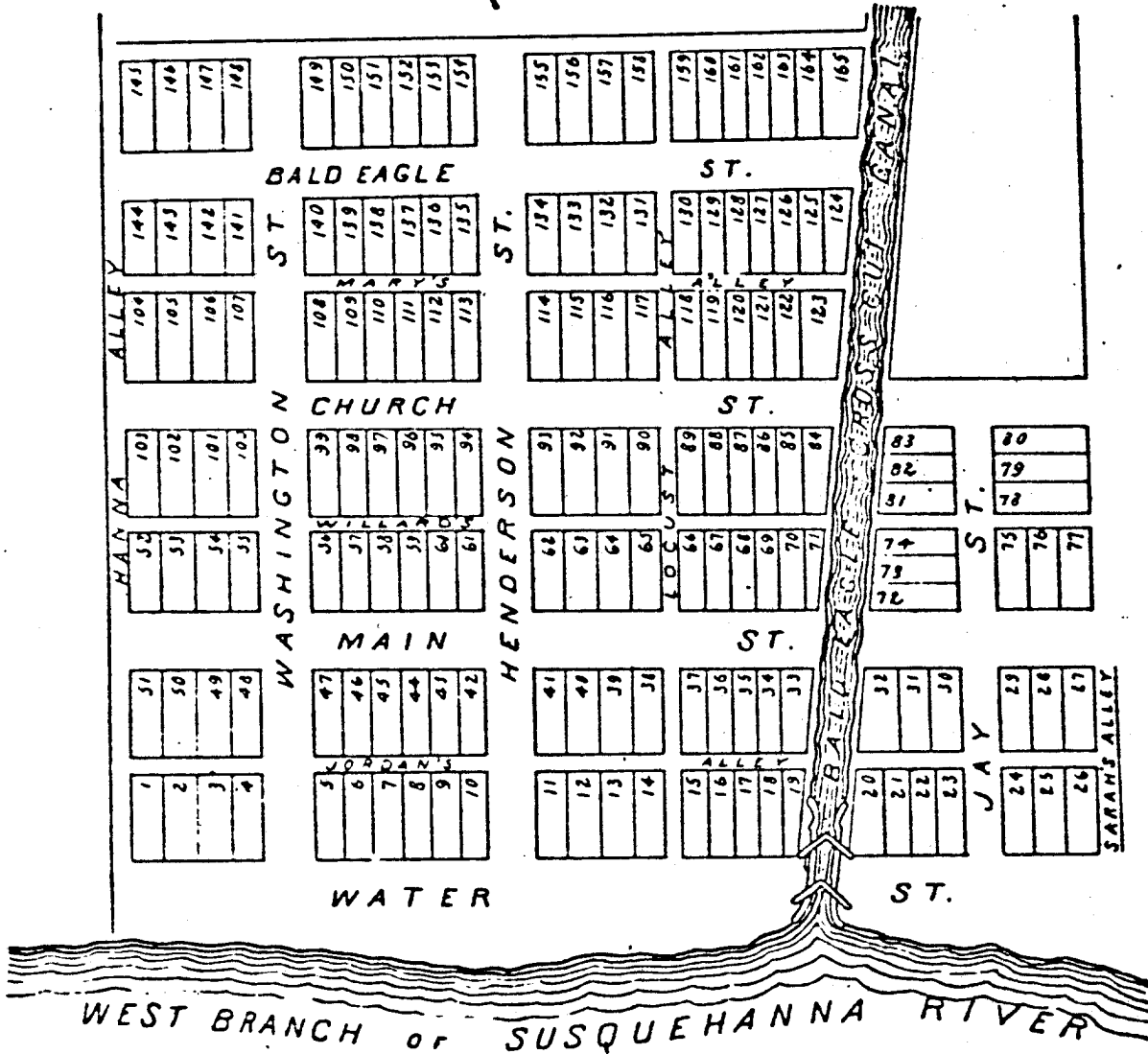
to
New York
PLATE III

GENERAL PLAN
CITY OF LOCK HAVEN, PENNA.
BY MARION H. OHL CITY ENGR. DRAWN BY R. F. MCGILL
SCALE 1" = 400' REVISED BY G. O. OCT. 1935
JAMES PUBLISHING CO.
LOCK HAVEN, PA.



J. & W. CHURCH, PROPRIETORS.

LOCKHAVEN.



ORIGINAL PLAN

LOCK HAVEN,

AS Laid Out By

JERRY AND WILLARD CHURCH,

OCTOBER, 1832.

Pennsylvania Historical & Museum Commission
Historical Manuscripts

Mss. Group - Map Collection 1681-1963
Subgroup - Division of Public Records

Series II Counties

Mss. Group No. 11
Contents No. 74

1862 Lock Haven PLATE II
Pop. 3,640

MEMORIAL

- Hotel John C.athan (Proprietor)
1. George Kern
2. H. & J. Z. Long (Merchants)
3. John Chatham
4. John Tracy, Justice
5. J. H. & J. Z. Long
6. J. & P. M. Welsh, Hotel
7. Rob. Macdonald
8. Moore, Cabinet Shop
9. B. Jacob, Shoemaker
10. Mrs. Harrison
11. Jas. D. Cousin, F. M.
12. Shop Shop
13. Wm. Wren, Jr. (Blacksmith)
14. Mrs. Chatham
15. John Frayer
16. Mrs. Stenker
17. John M. Gill
18. John Larkens
19. Henry Kiefer
20. N. Koster
21. Mrs. Reesman
22. John Stover
23. John Cox
24. Emanuel H. Lohr
25. Isaac Stenker
26. Pauline Kossinger
27. R. H. Krebs
28. Blacksmith Shop (Whitefield Owner)
29. Mrs. Cole (Thom H. Hamilton, Blacksmith)
30. Mrs. Wren
31. Berkey
32. J. Moore, Carpenter & Joiner
33. J. S. Porter
34. J. P. Livingston, Mill Store
35. Warehouse (Grocery)
36. J. H. & J. Z. Long, Warehouse
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100. J. H. & J. Z. Long

Mechem

G. G. Irwin

Tollgate

Chas. Logue

Mrs. Wills

Chas. Logue

Chas. Logue

Chas. Logue

Chas. Logue

Chas. Logue

Chas. Logue

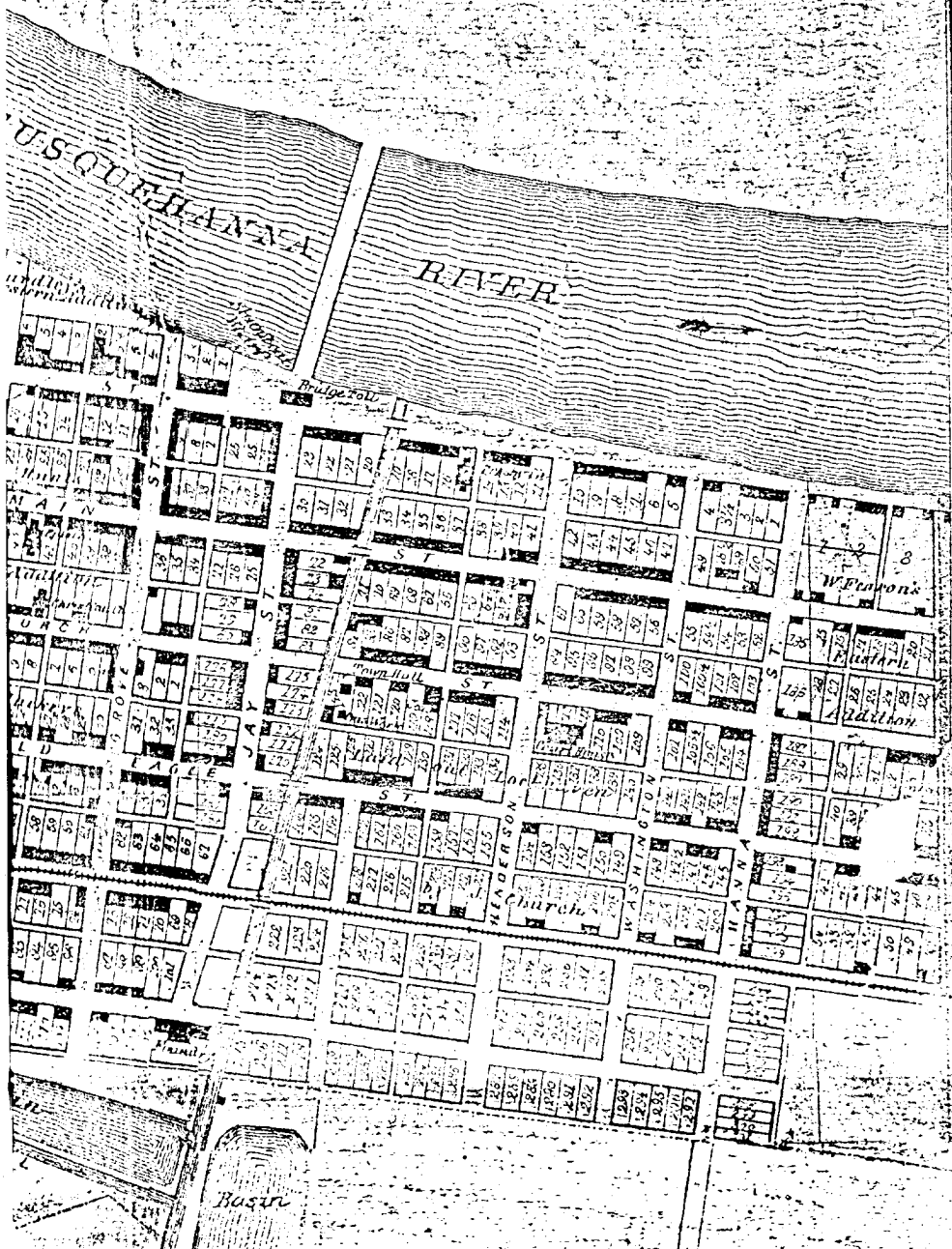
Chas. Logue

3

CK HAVEN

BOROUGH

1862



- 72.23. S. Parlor
- 75.16. Flemington Mill Store
- Warehouse (Gravel)
- 78.19. 11 and 12 Long Warehouse
- 83
- 86.87. Jefferson Chatham
- 88. John. Bressler
- 91. John. Mayhew
- 95. Harbo
- 96. H. Chatham
- 100. L. Schoolhouse
- 101. H. Jewling
- 102. Paul. Losh
- 103. Fred. Hammon
- 104. Lav. Braver
- 105. H. B. Car. Auction. Wareh.
- 106. H. B. Car. Auction.
- 107. C. Presburying, Carpenter. Shop



G. G. Irwin

Chas. Squire
Mrs. Squire
Chimney
Abraham
Tollgate
Thos. Logue
W. Mader
Thos. Logue
Thos. Logue
Berry

Wm. Stern

Irwin's
Addition

National Hotel
B. R. H. Passenger Depot
Planing Mill
Flour Mill

L. Prisel

Irwin's Western
Addition

Christian Church
42. Episcopal Church
22. Academy
1. Grading
10. Bank
12. Mayers Building
13. Scotts Building

FLEMINGTON

(ALL L. S. O. N.)

Pea-on and
Mackey Southern
Addition

41. 42. Schoolhouse
Steam Saw Mill
105. Foundry
44. United States Hotel
23. E. Hotel

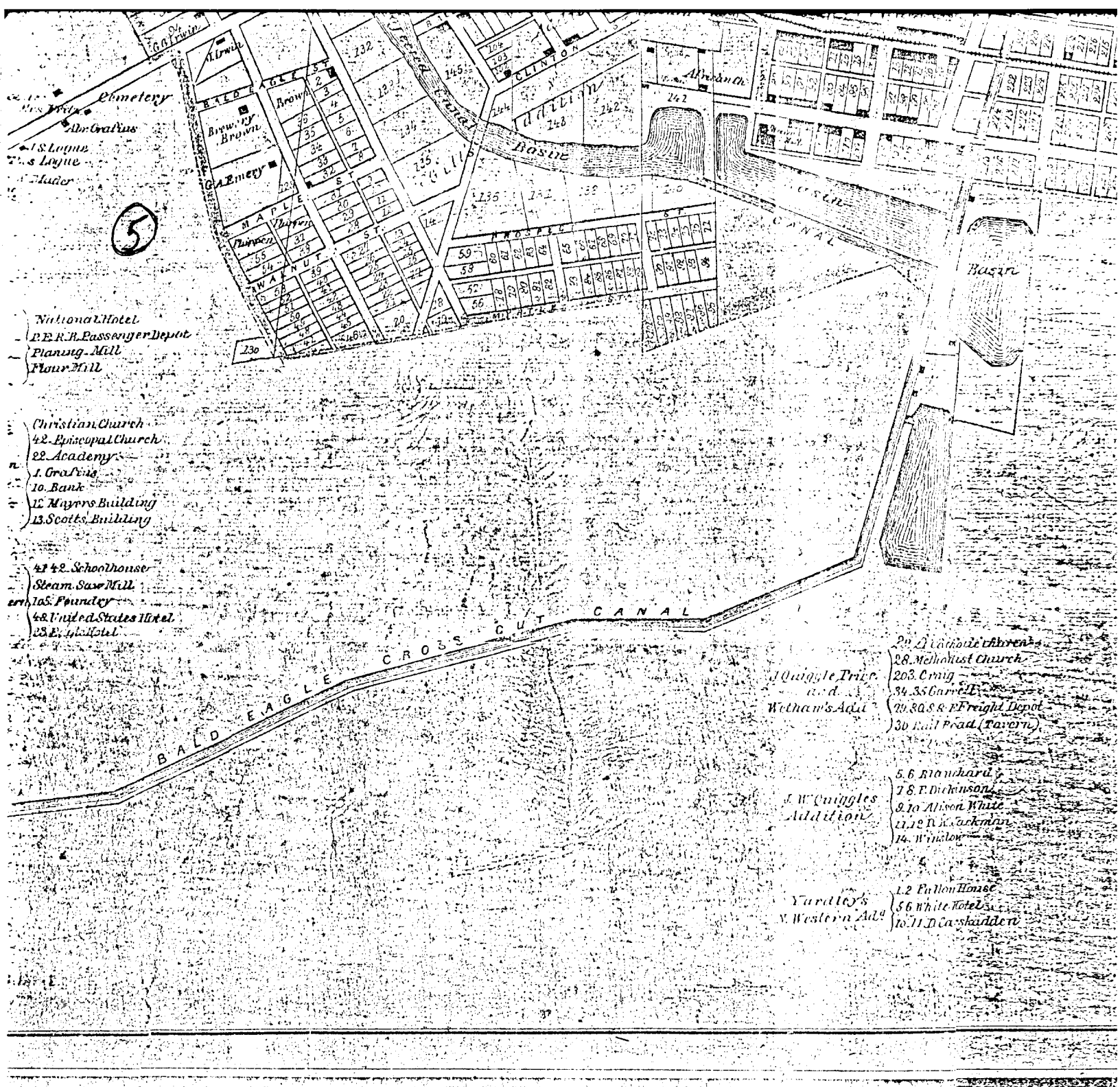
Cropper Shop

Over Mill

BALD

W. J. Carson & Son
Saw Mill

India





DESCRIPTION OF WATER STREET DISTRICT

Architectural Significance

This material was submitted in support of the Historic District Nomination presented to the Pennsylvania Office of Historic Preservation and approved by the Department of the Interior.

Approximately 75 of the historic structures within this district remain on their original sites and are well preserved. Twenty-one of these structures are listed separately in the Historic District Nomination approved by the Department of the Interior. The most significant buildings from an architectural standpoint are:

1. The L. A. Mackey House, 1854, is a Federal-Tuscan Transitional, two story, flemish bond brick dwelling with the main section measuring 44.5' by 39.5'. The symmetric facade has five windows across the front, a bracketed cornice with dentils (which is carried along the sides of the building), a decorated frieze with five oblong windows, and a deeply recessed entrance with paneled door flanked by side lights and topped by a large rectangular space filled with a semi-circular window. This front entrance is framed with a hood supported by heavy brackets and topped with balustraded balcony. There are twin chimneys in both gable ends of the main section of this building which is close to original and in excellent condition.
2. The David Carskaddon Homestead, 1858, is an Italian Villa style, two story dwelling, brick with stucco finish and constructed in the form of a Y. The low profile roof once supported a square cupola containing pairs of round headed windows and topped with a flat roof, deep eaves and closely spaced brackets. This building has quoins at all corners, grouped pairs of windows, and once had balconies between the window pairs of the first and second floors. The space between the two front projecting wings was filled with a one story porch topped with a balcony.
3. The James White House, 1856, is a Greek Revival-Tuscan Transitional style with Tuscan detailing, two story, flemish bond brick dwelling with a symmetrical facade and three windows across the front. The windows equipped with louvered shutters are four over four with a wide vertical mullion and very slender horizontal mutins. Drip mouldings decorate the otherwise plain window frames. Each side gable has twin chimneys piercing a low profile hip roof (topped by a balustraded deck) and has modest eaves which are decorated with a narrow barge board in the form of ogive curve scallops. Slightly recessed, the front entrance has a transom and side lights and a paneled door all framed by flat fluted columns supporting a decorated architrave. Earlier views show that there was originally a one story pillared porch decorated with ogive curves similar to the barge board.

4. The Winslow-Crawford House, 1855, is a Formal (Steamboat) Gothic style, two story frame dwelling with two symmetric projecting bays on the front facade; topped with triangular gables containing round headed, center crested Gothic style windows. Between these gables we find a dormer with triangular pediment. In the triangular gables at each side of the main section we find double arched Gothic windows. The front entrance has a pair of rectangular panelled doors, pairs of side lights and transom. Toward the end of the century, a small centrally placed front porch was replaced with a full width porch with ionic columns and double dentil work which was also applied to the many triangular pediments and gables as well.
5. The Craig-Furst House, 1860, is a typical Gothic Revival style, two story brick with stucco finish dwelling. There are three window pairs across the front and very steep twin gables containing lanceted windows. These gables are separated by a lancet arched dormer containing a window similar to those found in the gables. The front entrance has double doors, side lights and an elliptical top light. Originally there was a full width front porch (one story).
6. The Clinton County Court House, 1867, was designed in the Italian Villa style by the architectural firm of Sloan and Hutton of Philadelphia. The specifications for the building read, "The building will be 64 feet two inches in front including the towers (and 55 feet two inches exclusive of the projection of the towers) by 114 feet two inches in length." This brick and cut stone rectangular building has twin towers flanking a Classic Revival facade. The windows on the second floor are tall, round headed and set in arched recessed panels. Both towers are surmounted by domed belfries. The only alterations to this building are the removal of the dormers in the belfries and addition of a conforming addition at the rear of the building.
7. The Jacob Grafius House, 1857, is a two story flemish bond brick dwelling with a symmetric facade similar in treatment to the L.A. Mackey House. The end gables contain twin chimneys connected with a parapet, and have triple windows at the peak. The most outstanding feature of this building is the highly decorated frieze which has floral designs between closely spaced brackets.
8. The W. A. Simpson House, (between 1872 and 1880), is a three story brick dwelling covered with grooved wood to represent dressed stone work. On the front facade we find a centrally placed four story tower capped with an ogive curve mansard roof pierced by four hooded dormers. There is a one story porch in the front which has closely placed brackets in the eaves, sixteen square columns supporting segmental arches. All sections of the dwelling have their third floor inside a concave mansard roof which is equipped with heavily hooded dormers. The deep eaves of this roof exhibit a double set of dentils and carved brackets. The windows are round headed and have center crested and projecting cornices supported by bracket pairs. The frames are decorated with long slender C scrolls.

Historic Significance

In the district there are at least eight additional important historical buildings plus a canal lock that gave its name to Lock Haven and the site of Fort Reed which was the last of a chain of forts on the West Branch of the Susquehanna River. Historic significance is measured by the importance of the structure to history, the occupation and/or importance of the occupant, and its uses over time. (Also very close to the district are to be found good examples of all remaining later Victorian architectural styles).

Most of the historic buildings in the Water Street District are related to the lumber industry. An individual listing of all homes in the Water Street Historic District appears below:

The Canal Lock Park
E. Water Street

The City of Lock Haven

Canal Bed
E. Water Street

The City of Lock Haven

The German Lutheran Church
E. Water Street

The Heisey Museum
362 E. Water Street

Clinton County Historical Society

The H. T. Beardsley House
402 E. Water Street

Mr. Samuel Casilo

The W. W. Morrison House
372 E. Water Street

Mr. Conely Hayes, Mrs. Packer

Fort Reed
E. Water Street

The City of Lock Haven

The Clinton County Court House
E. Water Street

The Jacob Grafius House
217 E. Water Street

The L. A. Mackey House
201 E. Water Street

The Abramham Grafius House
200 E. Water Street

The Fallon House
E. Water Street

The David Carskaddon Homestead
26 E. Water Street

The Perry-Best House
2 E. Water Street

The Great Island Church
W. Water Street

The James White House
46 W. Water Street

The Allison White House
104 E. Water Street

The. W. A. Simpson House
118 W. Water Street

The Winslow-Crawford House
214 W. Water Street

The Craig-Furst House
220 W. Water Street

The O. D. Satterlee House
228 W. Water Street

The Kammerdiner House
246 W. Water Street

The Fisk-Dunn House
252 W. Water Street

The Citizens of the County
of Clinton

Dr. F. Winner, Jr.

Mrs. Frances A. Edmonston

Mr. Morton Fromm

Mr. Anthony Torsell

Mrs. Phillip A. Teah

Constance I. Pursley

Mr. Robert Klewans

Dr. Gerard A. DelGrippe

Mr. Norman G. Coulson

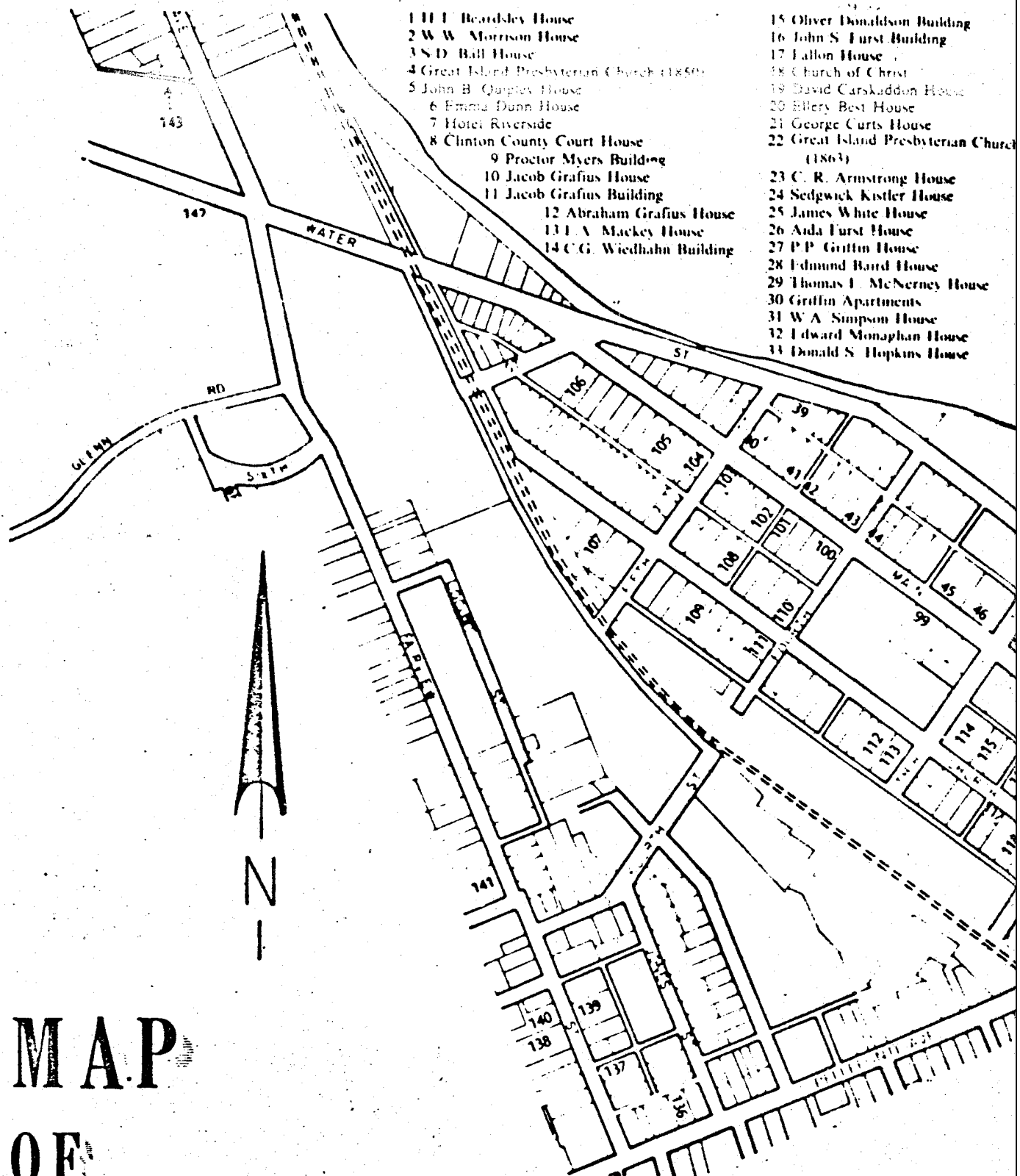
Mrs. Thomas N. Wynn

McCormick Estate

Mr. Oliver P. Gillock

Mary and Eleanor Clark

Mr. Ernest L. Vannucci



- 1 H. F. Beardsley House
- 2 W. W. Morrison House
- 3 S. D. Ball House
- 4 Great Island Presbyterian Church (1850)
- 5 John B. Quigley House
- 6 Emma Dunn House
- 7 Hotel Riverside
- 8 Clinton County Court House
- 9 Proctor Myers Building
- 10 Jacob Grafius House
- 11 Jacob Grafius Building
- 12 Abraham Grafius House
- 13 I. A. Mackey House
- 14 C. G. Wiedhahn Building

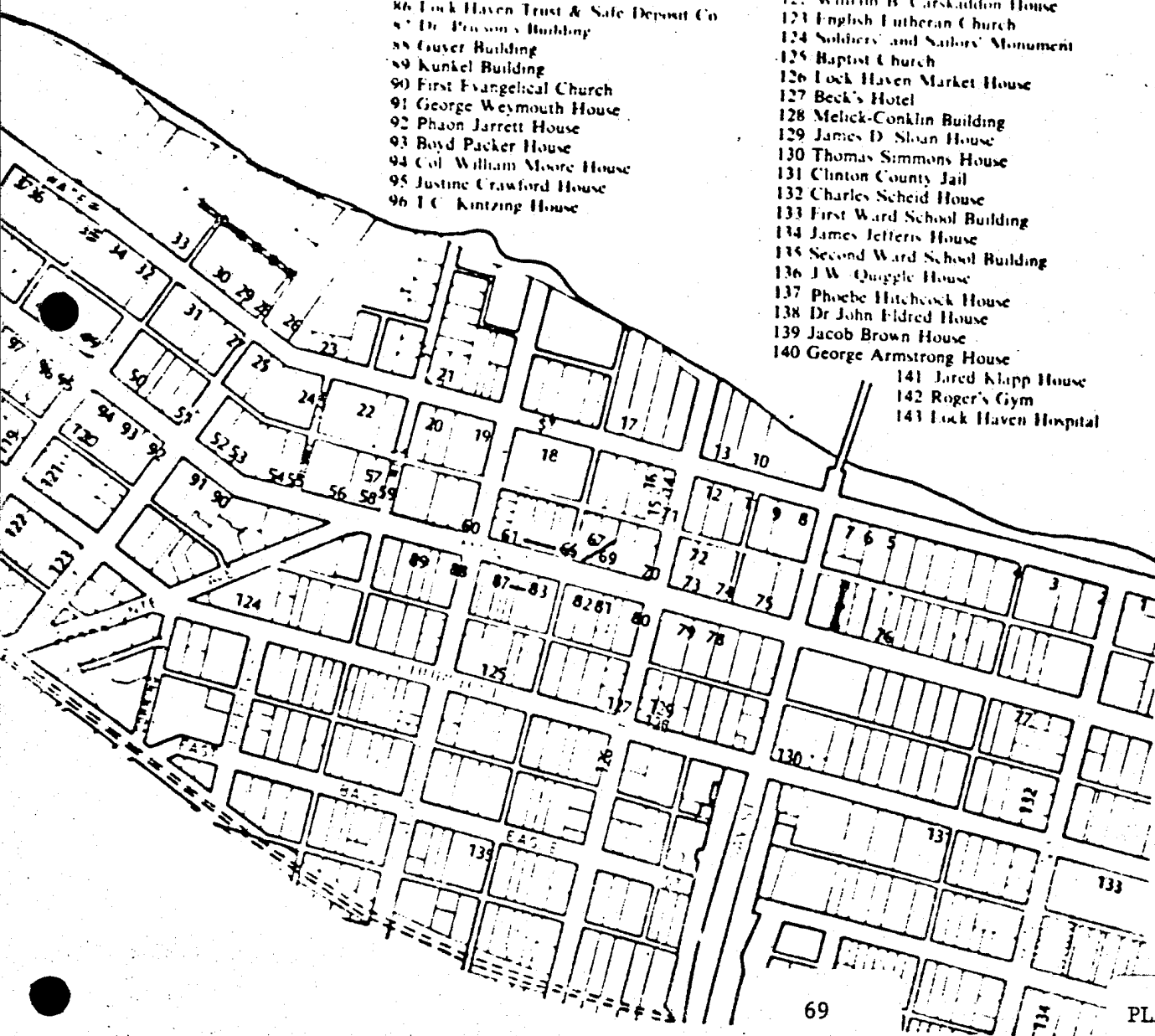
- 15 Oliver Donaldson Building
- 16 John S. Furst Building
- 17 Fallon House
- 18 Church of Christ
- 19 David Carskaddon House
- 20 Ellery Best House
- 21 George Curtis House
- 22 Great Island Presbyterian Church (1863)
- 23 C. R. Armstrong House
- 24 Sedgwick Kistler House
- 25 James White House
- 26 Aida Furst House
- 27 P. P. Griffin House
- 28 Edmund Bard House
- 29 Thomas L. McNeerney House
- 30 Griffin Apartments
- 31 W. A. Simpson House
- 32 Edward Monaghan House
- 33 Donald S. Hopkins House

MAP OF LOCK HAVEN

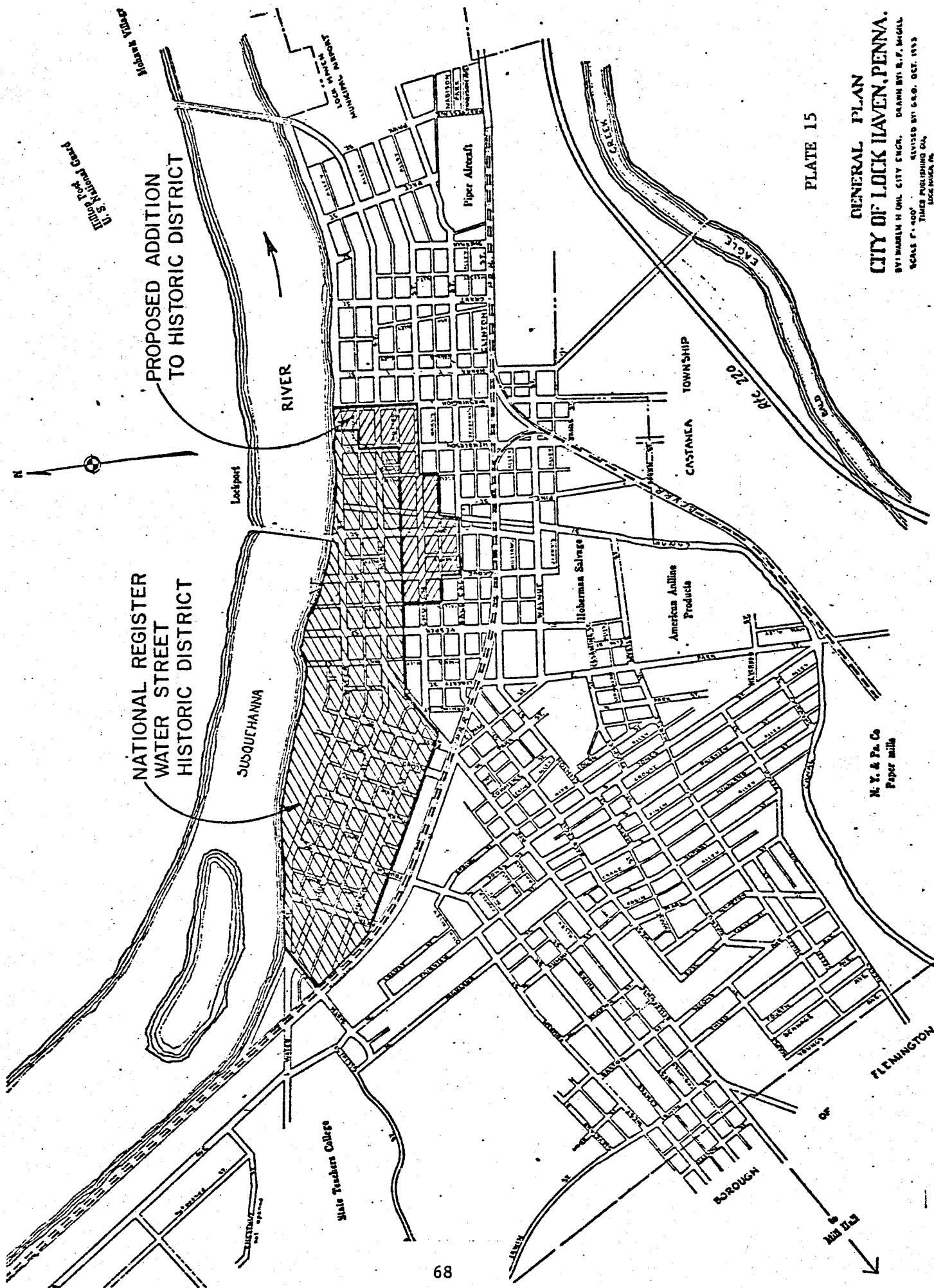
34 Craig-Earl House
 35 P.S. Merrill House
 36 John F. McCormick House
 37 H. L. Bishop House
 38 Church of the Immaculate Conception
 39 George A. Good House
 40 E. W. Vann House
 41 J. C. Chrysler House
 42 Henry McCormick House
 43 Lock Haven Prison House
 44 E. L. Warner House
 45 Edward Mackey House
 46 William Barrows House
 47 William H. Mayer House
 48 Charles Cross House
 49 Trinity Methodist Church
 50 Benjamin Myers House
 51 Dr. Leach House
 52 Moore Frederick House
 53 H. E. Tschmidt House
 54 Joseph's Shoemaker House
 55 Bell Telephone Building
 56 Post Office Building
 57 Isaac Staffer Building
 58 Deborah Rynder Building
 59 C. L. V. Brock Building

60 Exchange Building
 61 Academy of Music Building
 62 Louis Haberstroth Building
 63 Proctor Myers Building
 64 Harmon Building
 65 Stierner Lambert Building
 66 Achenbach Building
 67 Hiram Myers Building
 68 Rebecca Rall Building
 69 Isaac Allbach Building
 70 Frederick's Block
 71 Keller Building
 72 A. Farnsworth Building
 73 Opera House
 74 Old Fellows Hall
 75 Moorhead Irwin House
 76 Isaac Packer House
 77 S. Hulup Thomas House
 78 Simon Scott House
 79 Blesh Building
 80 Masonic Temple
 81 Simon Building
 82 Clinton Trust Building
 83 St. Paul's Episcopal Church
 84 Jacob Kamp Building
 85 Fox Building
 86 Lock Haven Trust & Safe Deposit Co.
 87 Dr. Prinson's Building
 88 Gwyer Building
 89 Kunkel Building
 90 First Evangelical Church
 91 George Weymouth House
 92 Phaedra Jarrett House
 93 Boyd Packer House
 94 Col. William Moore House
 95 Justine Crawford House
 96 I. C. Kintzing House

97 Gravenstone Kintzing House
 98 Elizabeth Bridgens House
 99 Samuel Crist House
 100 Jesse Merrill House
 101 G. D. Bowman House
 102 Newton Fredericks House
 103 Dr. Samuel Adams House
 104 H. L. Brown House
 105 Thomas Mann House
 106 Abraham H. Best House
 107 Professor Raub House
 108 Harry E. Fox House
 109 John B. Leshner House
 110 Worth Fredericks House
 111 W. Hall Miller House
 112 George Hipple House
 113 Wilson Kistler House
 114 George Strayer House
 115 William Kessler House
 116 Reuben Brawn House
 117 Henry Hipple House
 118 H. G. Hipple House
 119 Charles Kreamer House
 120 Cephas Batcheler House
 121 Frederick Kreamer House
 122 William B. Carskaddon House
 123 English Lutheran Church
 124 Soldiers' and Sailors' Monument
 125 Baptist Church
 126 Lock Haven Market House
 127 Beck's Hotel
 128 Melick-Conklin Building
 129 James D. Sloan House
 130 Thomas Simmons House
 131 Clinton County Jail
 132 Charles Scheid House
 133 First Ward School Building
 134 James Jeffers House
 135 Second Ward School Building
 136 J. W. Quiggle House
 137 Phoebe Hitchcock House
 138 Dr. John Eldred House
 139 Jacob Brown House
 140 George Armstrong House
 141 Jared Klapp House
 142 Roger's Gym
 143 Lock Haven Hospital



A P P E N D I X



GENERAL PLAN
CITY OF LOCK HAVEN, PENNA.
BY WARREN H. ORL CITY ENGR. DRAWN BY R. F. MCGILL
SCALE 1" = 400' REVISED BY G. O. OCT. 1933
TIMES PUBLISHING CO.
LOCK HAVEN, PA.

III. CULTURAL RESOURCES RECONNAISSANCE

REPORT ON LOCKPORT

The Lock Haven
Flood Protection Project
Clinton County, Pennsylvania

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U. S. Army
Corps of Engineers

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I. Introduction

On 29, 30, 31 August 1979, the District staff archeologist conducted a supplemental Cultural Resources Reconnaissance (CRR) at Lockport, Clinton County, Pennsylvania. The community of Lockport is on the opposite bank of the West Branch of the Susquehanna from the City of Lock Haven within the Appalachian Plateau province. This supplemental cultural reconnaissance on the Lock Haven CRR (See Deans and Hay et. al., 1979) was undertaken to determine the cultural resources in the Lockport locale and the extent to which the Lock Haven's flood protection project could potentially adversely impact on Lockport's cultural resources. This report is presented in three parts: the introduction, the analysis, and the study recommendations. The recommendation section is designed to provide the Baltimore District with a preliminary Phase I evaluation of the Lockport's archeological and historical sites in terms of their potential significance, National Register criteria, and their eligibility for National Register Status and to identify the need for further study if warranted. This section also summarizes the Pennsylvania State University (PSU) and Woodward and Deans CRR findings and recommendations.

During the Pre-authorization Study the Baltimore District on 19 September 1975 signed a Memorandum of Agreement on the Lock Haven Flood Protection Study with the State Historic Preservation Office (SHPO) and the Advisory Council. The historic preservation Section 106 Procedure Agreement stipulated that six openings in the wall would satisfactorily mitigate the adverse physical and visual impacts between the Water Street Historical District and the river. The Memorandum of Agreement was of a limited scope. The Memorandum did not address the impact on Lock Haven's potentially significant individual structures and/or buried archeological sites that could be altered, damaged or destroyed by the project. (See Lock Haven Final Environmental Impact Statement, September 1975, Appendix B, page 13025). Therefore, to comply fully with the National Historic

Preservation Act of 1966, the National Environmental Policy Act of 1969, Executive Order 11593, and the Advisory Council on Historical Preservations's procedures for the protection of historical and cultural properties (36 CFR Pat 800) a CRR was undertaken in 1978-1979 by PSU and Woodward and Deans.

Prior to the Lockport field trip, discussions were conducted over the telephone with Mrs. Carol Brown, Dr. Barry Kent, Mr. Edward Long, Mrs. Carol Rockey, Mr. Dean Wagner, and Dr. Melvyn L. Woodward (See Reference section). The sincere interest and cooperation of each of these persons is thoroughly appreciated by the Baltimore District, especially for their grateful assistance on such short notice during which the supplemental CRR investigation was undertaken.

The investigator examined the States archeological site files in Harrisburg on Clinton County and met with Mr. Gus Hickok of the SHPO office, Dr. Barry Kent, and Mr. Ira F. Smith, III. In Lock Haven, the investigator was shown several historical maps of Lock Haven spanning 1852-1889 by Mrs. Carol Brown (past President of the Clinton County Historical Society) and by both Mrs. Audrey Miller Bongar and Mrs. Freda Brungard of the Ross Library reference staff. Mr. Dean Wagner, a local preservation consultant, accompanied the investigator on the tour of the Mackey Carriage House (in Lock Haven), John Hanna Stone Farm House, and the Lockport Lock Keeper's wood frame house and the canal guard lock and open ditch. Mrs. Jennie Edmondson, wife of the owner of the Mackey House, showed Mr. Wagner and the investigator the carriage house and Mr. Samuel J. Haussener took Mr. Wagner and the investigator on a room by room tour of the John Hanna Stone Farm House. Dr. Woodward was also instrumental in meeting with the investigator and contributed his knowledge and discussed the investigators preliminary views and findings on the just completed Lockport field trip. Black and white photographs were taken of all the properties discussed in the report with the exception of the Canal Era houses along Lockport's riverfront.

The reconnaissance consisted of conducting agency coordination, informant interviews, a day walk over, and a day library and map search. The ensuing cultural sites and properties discussed in this report were searched in the literature and maps, visited in the field, and briefly described.

Tentative plans call for the construction of a flood wall-levee protective system which may require demolishing or removal of the Mackey Carriage House, the Piper House, the Pennsylvania Cross Cut Canal Lock, and buried remains of Lock Haven's 19th Century riverfront oriented lumber industry. These Lock Haven sites are in the Water Street and Sloan Historical Districts (FR Part 3, 6 February 1979 and Lock Haven 1975 Final EIS). Buried prehistorical archeological sites will be adversely impacted by the project.

In Lockport, current plans are considering demolishing 54 structures in upper Lockport and 31 structures in lower Lockport's alluvial flood plain (see Map 1). Originally the Lockport CRR was to examine and evaluate the historical significance of the John Hanna Stone House, Lock Keeper's House, Canal Guard Lock, Lockport's structures in general, and in addition, the Mackey Carriage House in Lock Haven (Woodward p.c.).

Historical Sketch of Lockport

The community of Lockport on the West Branch of the Susquehanna lies across the river from the town of Lock Haven. Historically there is less written on Lockport's past than on the City of Lock Haven. The West Branch flood plain formerly was inhabited by a dense and concentrated Indian population. The Lock Haven-Lockport locale was the furthestest western Pennsylvania Revolutionary Era settlements where a rich alluvial flood plain existed.

Lockport was laid out by Nathaniel Hanna of the original Hanna family in the 1760's and remained a rural community until the completion of the West

Branch Canal in 1834 on the Lockport side of the river. (Lloyd 1931:56, Miller 1966, and PSU 1976:Intro). With the Canal, the lumber industry was born and grew rapidly. The West Branch Boom (river barrier chain) was built in 1849 on the opposite side of the river making Lock Haven the western most lumber market center on the Susquehanna River for the timber rafts, rafting business. In the 1850's Lock Haven was prospering building homes and hotels for the rivermen and merchants. The lumber industry continued to prosper in Lock Haven through the 1860's. In the 1870's, as the lumber industry declined, the manufacture of paper and clay bricks developed (PSU 1976: Intro).

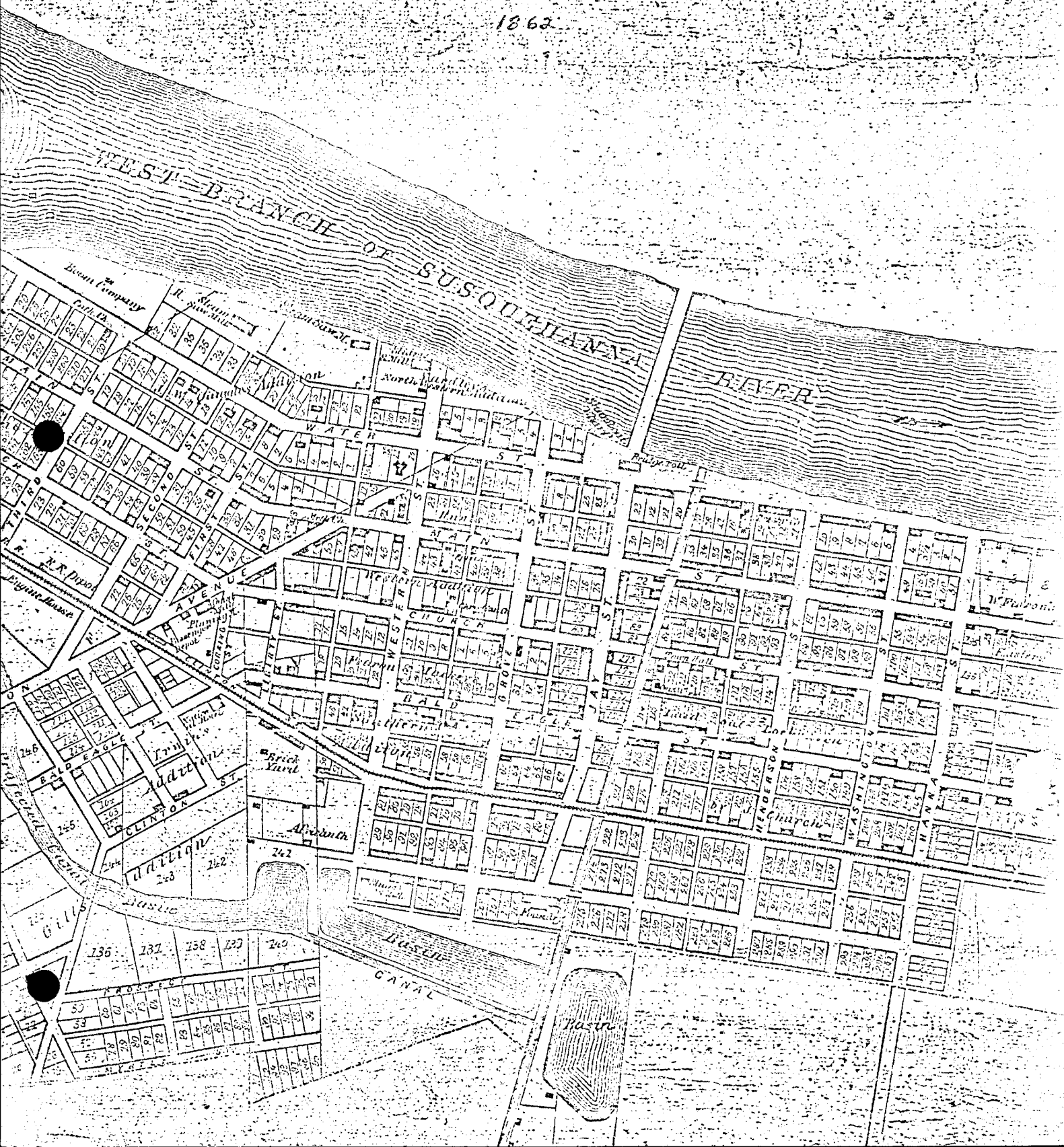
The villages of Lock Haven and Lockport were connected originally by ferry, later by a wooden covered bridge 1850-1911, and today by a steel truss bridge on concrete piers.

During the lumber era, two hotels were built in Lockport for the rivermen: the Hanna Hotel and the Lockport Hotel. For most of the 19th Century a distillery which operated in lower Lockport was located downstream of the Lock Keeper's House. Flooding has occurred regularly throughout Lock Haven and Lockport's history.

Today, the 1812 Hanna Stone Farm House in upper Lockport, 17 wood slab canal era houses (in upper and lower Lockport), the Lock Keeper's wood frame house, the stone canal guard lock, and the open canal ditch in lower Lockport are standing structures of the past eras.

By 1900, Lockport had become largely a residential community. Today there are over 100 structures in upper and lower Lockport. Architecturally these structures fall into four categories:

1862



Pennsylvania Historical & Museum Commission

Historical Manuscripts

Mss. Group - Map Collection 1681-1963
Subgroup - Division of Public Records

Series II Counties

Mss. Group No. 11
Contents No. 74

PLATE 14

1862 Lock Haven
Pop. 3,640

PLEMINGTON

Hotel John Chatham (Proprietor)

142 George Herr

4 J.H. & J.L. Long (Merchants)

5 John Chatham

6 Jos. A. Tracy, Justice

7 J.H. & J.L. Long

8 J.A. & F.M. Welsh Hotel

11 Rob. Mackleut

12 Moore, Cabinet Shop

13 J. Jacob Stenker

16 Mrs. Harrison

17 Jas. D. Council, P.M.

18 Shae Shop

19 Sam. Wren, Jr. (Blacksmith)

20 Mrs. Chatham

21 John Fraser

22 Mrs. Stenker

26 John W. Gill

27 John Larkens

29 Henry Kiefer

30 S. Kester

31 Mrs. Reesman

36 John Stuper

50 John Carr

51 Emanuel Kiefer

52 Isaac Stenker

55 Furline Kossinger

58 R.H. Krebs

59 (Blacksmith Shop) Whitefield Owner

60 Alm Cole (Thom. H. Hamlin, Blacksmith)

66 67 Carskadon

68 Berhly

69 J. Moore, Carpenter & Joiner

72 73 S. Purp

75 76 Plemington Mill Store

77 Warehouse, Grod

78 79 J.H. & J.L. Long Warehouse

83

86 87 Jefferson Chatham

88 John Bressler

91 John Martin

96 Harter

98 Fr. Chatham

100 J. A. Schenhouse

101 H. Smith

102 J. Smith

103 J. Smith

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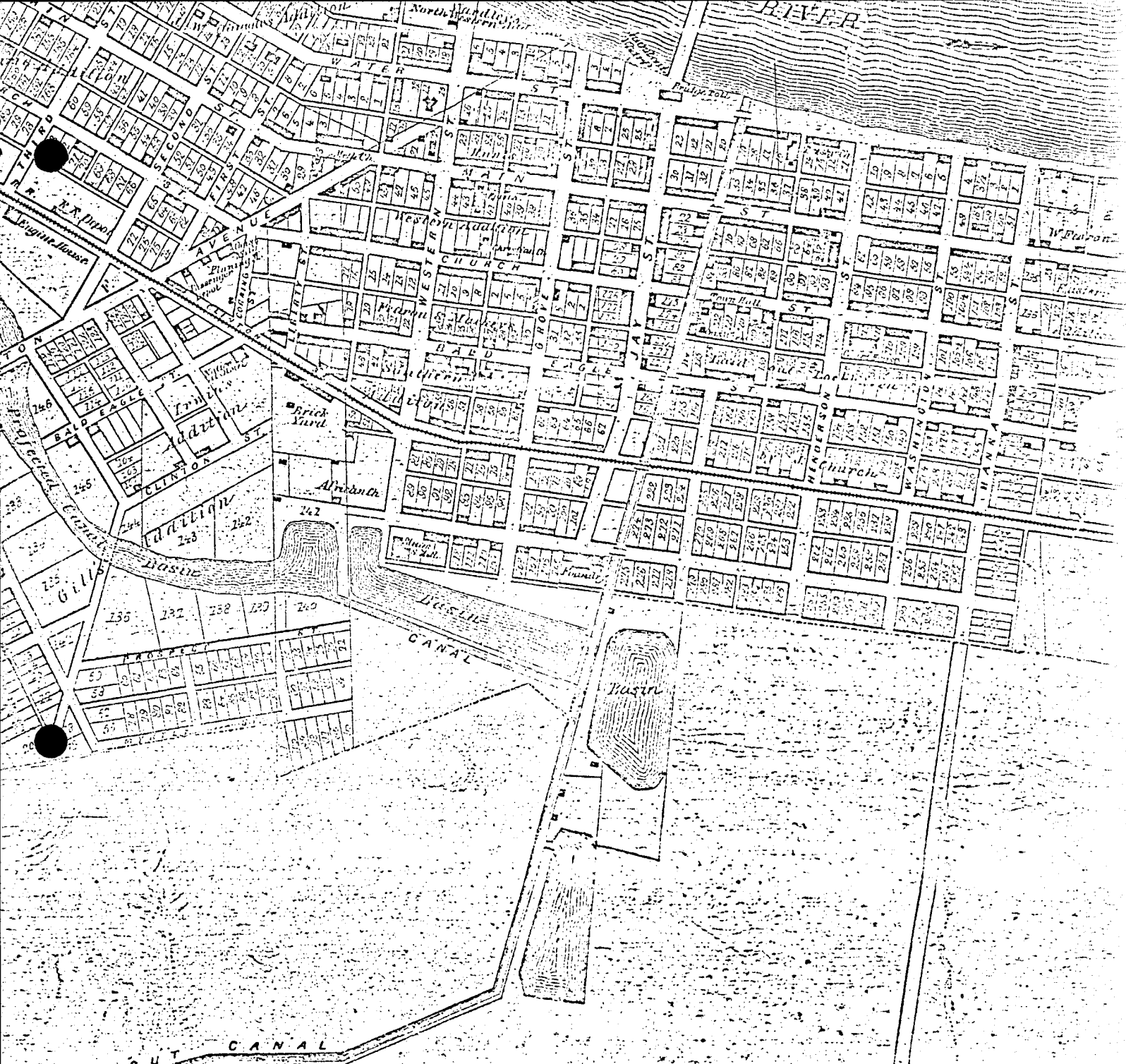
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J. Quiggle, Price
 and
 Wetham's Addⁿ

20. N. W. Church
 28. Methoist Church
 203. Craig
 24. 35. Garrett
 29. 30. 8 & 1. Freight Depot
 30. Rail Road (Tavern)

J. W. Quiggles
 Addition

5. 6. Elanchar
 7. 8. P. Dickanson
 9. 10. Alison White
 11. 12. D. C. Tuckman
 14. Winslow

Yardley's
 N. Western Addⁿ

1. 2. Patten House
 3. 6. White Hotel
 10. 11. D. Carshauden

Lockhaven
 laid out
 by J. Church

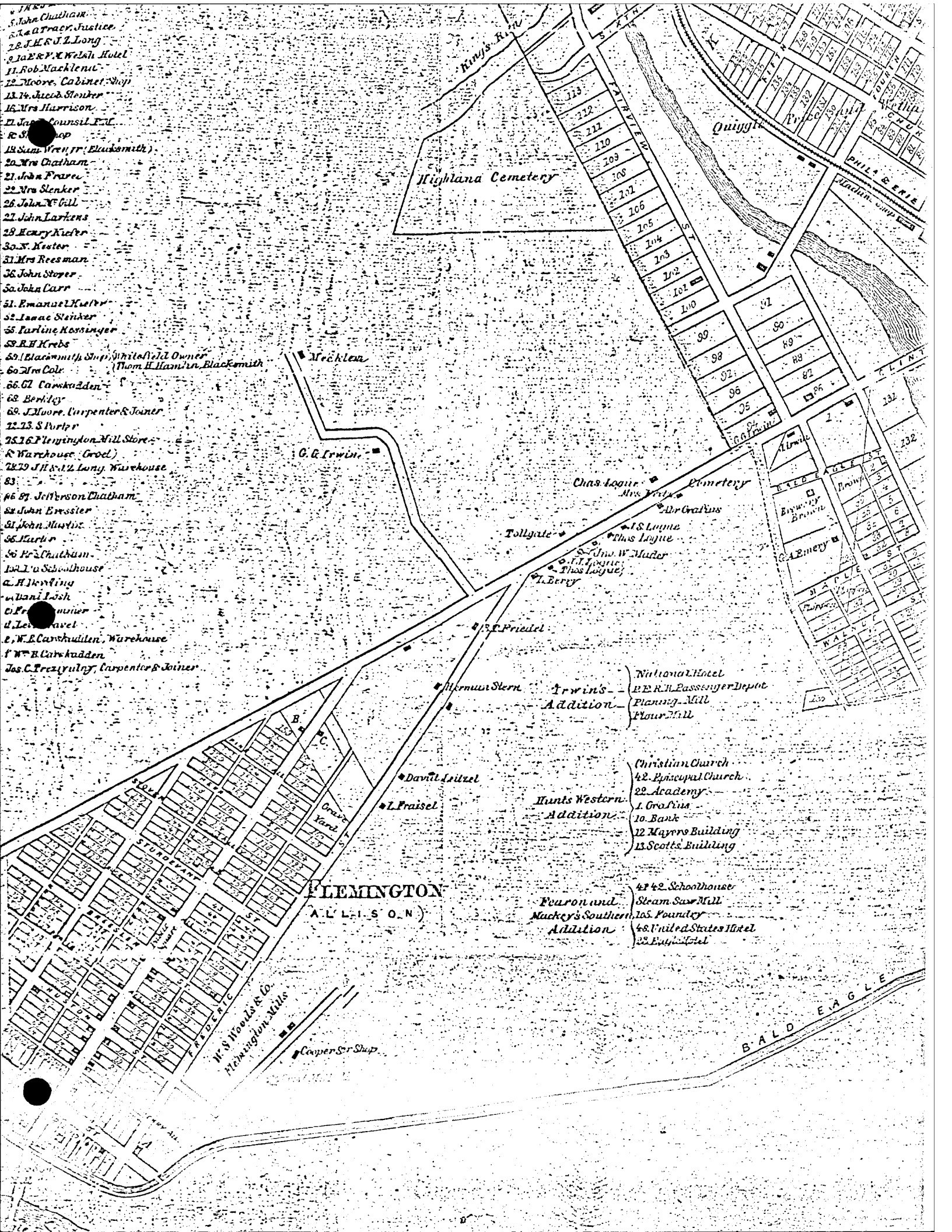
111. 113. Courthouse
 118. Jail
 64. 65. Tavern
 125. Town Hall
 123. Gas Works
 48. 49.
 24. Clinton House
 22. Mansion H.
 45. Presbyterian Ch.

Gill's Addition

W. Fournier's Eastern Addition

Boroughline

- 1. John Clutham
- 2. A. A. Tracer, Justice
- 3. J. H. & J. L. Long
- 4. J. A. & P. A. Welsh Hotel
- 5. Rob. Macklenic
- 6. Moore, Cabinet Shop
- 7. J. & J. Slenker
- 8. Mrs. Harrison
- 9. J. A. Council, P.M.
- 10. R. S. Shop
- 11. Sam. Wren, Jr. (Blacksmith)
- 12. Mrs. Chatham
- 13. John Fraser
- 14. Mrs. Slenker
- 15. John W. Gill
- 16. John Larkins
- 17. Henry Kiefer
- 18. N. Kester
- 19. Mrs. Reesman
- 20. John Stoper
- 21. John Carr
- 22. Emanuel Kiefer
- 23. Isaac Slenker
- 24. Pauline Kossinger
- 25. R. H. Krebs
- 26. Blacksmith Shop, Whitefield Owner
(Thom. H. Hamlin, Blacksmith)
- 27. Mrs. Cole
- 28. G. L. Carshadden
- 29. Berley
- 30. J. Moore, Carpenter & Joiner
- 31. S. Porter
- 32. F. & J. P. H. & J. L. Long, Mill Store
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Highland Cemetery

Mecklen

G. G. Irwin

Chas. Leque

Quiggle

Tollgate

Dr. Gratus

J. S. Lounie

Chas. Leque

J. S. Lounie

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FLEMINGTON
A. L. L. I. S. O. N

Irwin's Addition

National Hotel
P. R. H. Passenger Depot
Planing Mill
Flour Mill

Hunt's Western Addition

Christian Church
42. Episcopal Church
22. Academy
1. Grocers
10. Bank
12. Mayers Building
13. Scotts Building

Feuron and Mackey's Southern Addition

41 & 42. Schoolhouse
Steam Saw Mill
105. Foundry
48. United States Hotel
22. Engle Hotel

W. S. Woods & Co.
Flemington Mills

Copper & Sheet

BALD EAGLE

a. Canal Era Period

Hanna Stone Farm House
Wood slab houses
Wood frame Lock Keeper's house
Stone canal guard lock
Open ditch canal

b. Victorian Era Structures

Substantial, modest contractor built
Private residences
Wood and brick structures

c. Other Structures

Scattered locations on the landscape including modern
ranch houses

d. Mobile homes

In the 1970's, 13 structures were razed as part of an urban renewal project immediately east of the Jay Street bridge. These structures contained the two Lockport hotels: the Hotel Hanna and the Woodward House. Today this open area is in the public domain (Ms. Carol Brown and Dean Wagner p.c.).

II. Cultural Analysis

Lockport

John Hanna 1812 Stone Farm House (off Farrandsville Road in upper Lockport).

Dean Wagner and the investigator visited with Mr. Samuel Jake Haussener (owner) of the Hanna House. Mr. Haussener pointed out that John Hanna in the early 19th Century had purchased 6,800 acres (all of Lockport locale) and built a 1½ story stone house in 1812. The one-story with loft built in the German colonial architecture style was built perpendicular to the river. ^{This is the} See the central portion of the standing structure. The stone walls are thick with a low ceiling and its flared eaves form porches that extend out from a steep angle roof. The interior contains a huge fireplace, original windows and ornamental hinges and locks. In the 1830's, John Hanna sold a portion of his flood plain property to the State of Pennsylvania for construction of the West Branch Canal route to Farrandsville. It is with this new wealth that John Hanna may have built the three-story stone house on the river side of the 1812 structure. In the process, it is conjectured that John Hanna moved the 1812 date stone from the earlier 1812 structure to his 1830's stone Georgian style structure. The Georgian floor and wall molding styles were also extended into the earlier 1812 section. The basement of the 1830 Georgian section was built with beams with up and down saw marks. These clues point to a pre 1849 date, when the first circular saws were introduced into the valley (Miller 1966: 109 and First Annual Tour of Clinton County (PA) Homes 1973, tour guide). The John Hanna Stone House (with its third addition, a 1970's wooden kitchen wing) maintains most of its architectural, locational, and historical integrity. Combined, these historical facets of the Hanna Stone House and the man himself are significant in local history. It is the investigator's opinion that the structure and its local story are of potential National Register quality.

Canal Era Canal Company houses (located along the river bank in upper and lower Lockport). There are 17 wooden frame 2-story houses with loft structures facing the river. These houses, uniform in size, have a small, gabled roof and front porch. Nine of these structures are upstream of the Jay Street bridge, and eight are downstream of the Jay Street bridge. Only two of the upstream properties have not been modernized. Seven of these structures have been covered with asbestos siding, with rear section and front porch additions. Downstream of the Jay Street bridge, four of the eight structures have been covered with asbestos siding with back sections and porch additions. In most instances, the architecture of these 17 structures has been modified and the integrity of their surroundings have been modified with the inclusions of scattered ranch houses, Victorian houses and mobile homes. Today many of Lockport's structures of the Canal Era and Victorian Era have been modified, and as a result, have lost their architectural significance.

Lock Keeper's House and Associated Stone Canal Lock (located downstream of the Jay Street bridge on the edge of an alluvial fan on the bank of the West Branch). The 1830's 2½-story wood frame Lock Keeper's House has a later addition on its east face. The interior of the structure is of simple country style. The building is now vacant and in a poor state of repair. The presence of the original gate keepers house in direct relation to the stone canal lock might be a unique feature that requires further investigation. The stone canal lock and open canal ditch (see 1862 Map of Clinton County, PA., Lockport Insert) are in a good state of repair. Approximately one-mile downstream in Dunnstown is another stone canal lock which is owned and maintained by the Clinton County Historical Society.

Urban Renewal Area

Immediately east of the Jay Street bridge, 13 structures were torn down in the 1970's. The area is now public domain. These structures had represented Lockport's largest buildings including two canal era hotels. (Ms. Carol Brown and Dean Wagner p.c.).

Late Prehistoric Indian village sites are thought to be concentrated in the Lock Haven reach (the confluence of the Bald Eagle Creek and the West Branch). Artifact collections by T. B. Stewarts and investigations by Davidsen (1929) J.M. et. al. (1973), Hay et. al. 1979 and Ira F. Smith demonstrate that the locale's prehistoric peoples were a large and dense population and concentrated in the flood plain in Muncy town, upper Lockport, Dunnstown and on Great Island. Preliminary hydrological findings, however, indicate no increased adverse effects to agriculture or soil erosion are anticipated if the project is built. Archeological resource specialists, on the other hand, feel the project might cause an increased stress on the more fragile nature prehistoric resources located in the flood plain (Turnbaugh 1978).

Additional Historical Sites in Lock Haven

Mackey Carriage House (201 E. Water and Mill Streets). Mr. Dean Wagner and the investigator were able to examine two lithographic engravings of the Mackey House and Carriage House that likely predate 1864. The existence of the Carriage House in both engravings give credence to the Carriage House's potential 1854 association with the Main House (See engraving Wagner et. al. 1979:200 and the one owned by Mrs. Jennie Edmondson, resident of the Mackey House). Mrs. Jennie Edmondson's engraving is in greater detail for it shows the two-story Carriage House with one (possibly two) gabled dormers, an attached shed, and wide carriage doors in the southeast corner of the wooden frame structure. The earliest

known documented evidence for the Carriage House is an 1877 sheriff sale notice where a 2-story wood frame stable is mentioned (Wagner p.c.).

A fire in 1954 destroyed the carriage (stable) roof, part of the frame siding and several of the wooden support beams. The replaced roof is a plane gabled roof without the original dormers or finished gable detail. New metal support beams have been installed in place of the burnt out wood beams and approximately one-third of the wood exterior has been replaced. A concrete floor has been put in and concrete cinder blocks are being installed on the interior side of the exterior walls to give the former wooden frame structural support (Jennie Edmondson, p.c.).

Furthermore, the Carriage (stable) House wide doors have been moved to the center of the structure. Dean Wagner noted that the original window frames and architectural window and wall molds are present in some parts of the structure. Today, the Carriage House has a 2nd floor apartment and the downstairs is used for general storage.

Additional buried historical sites have been identified by this investigator in Lock Haven as having played an important and significant role in Lock Haven History and which will be damaged or destroyed by construction of a flood protection project include the following sites:

West Branch Boom Company 1849

located at the foot of Sixth and Water Streets (See Lock Haven Maps dated 1857, 1862, and 1869, City Directories).

Queens Run Fire Brick Company 1888-1954

later called the North American Refractories Company, located at the foot of Third and Water Streets, now occupied by the Immaculate Conception School.

Winslow R. Satterlee Stream Saw Mill

later called the O. D. Satterlee & Brothers Company, located at the foot of Mill and Water Streets.

Bailey & Thorn Steam Saw Mill

later called the Simpson & Martin Works, located at the foot of 2nd and Water Streets.

H. G. Hawley Steam Saw Mill Company

located at the foot of Vesper and Water Streets.

Steam Boat and Canal Packet Wharf

located on the up river side of the Jay Street covered bridge. This wharf shows up on the 1857 & 1862 maps, but is apparently gone by 1869.

Pennsylvania Bald Eagle Cross Cut Stone Canal Lock

located on E. Water Street, east of the Jay Street bridge. The importance of this now buried canal lock constructed in 1835 is its association with Lock Haven's growth, expansion, and city's name (Canal Currents 1972 and Shank 1973). This site should be examined to determine its physical condition.

III. Recommendations

This section will present the findings of the investigation in Lock Haven and Lockport. The findings and recommendations will then be coordinated with the Pennsylvania State Historic Preservation Officer and the Advisory Council on Historic Preservation for comment and concurrence in the spirit of the 1975 Lock Haven Memorandum of Agreement. The 1975 Memorandum of Agreement addressed the Lock Haven Water Street Historical District and six closure structures to mitigate isolating the community from its traditional association with the West Branch of the Susquehanna River. The Memorandum also stipulated that in the event future plans would isolate, damage, or destroy archeological sites or standing historical structures in the Historical District, the District would coordinate with the SHPO and the Advisory Council. Upon completion of the Section 106 section coordination and concurrence with the above agencies the Baltimore District will have a Phase II culture/resource investigation strategy for Phase II AE&D Study.

Lock Haven Locale

The 1978 Penn State University archeologist consultants indicated that there are eight known prehistoric sites in the flood wall-levee alignment along the river bank of the West Branch and Bald Eagle Creek. The Memorial Park and Island View Park sites are Late Woodland, stratified, and intact sites that contain promising information and as such are eligible for inclusion on the National Register of Historic Places. Therefore, no Phase II additional exploratory investigation is recommended for these two sites.

Five archeological sites; Crissmans sites 1, 2, and 3, Cummingsfield sites 1 and 2, and the Water Street site require additional data. Accordingly, further field investigation is recommended to determine their significance and

and National Register quality. A sixth site, Cummingsfield site #1 will not be affected by the project. This sampling of the prehistoric resources in the project alignment suggests that additional archeological sites may exist that have yet to be identified.

In 1979, the principal investigator, Thomas R. Deans indicated that careful surface design and treatment were needed for the proposed wall and levee system to offset the loss of the aesthetic, traditional, and visual disruptions caused by the wall-levee upon the linear row of imposing Water Street second half 19th Century Greek Revival, Italianate, Italian Villa, Second Empire and Romanesque revival homes. The principal investigator identified the three-story frame-structure McCormack Farmstead (on Township Road 375 east of the Municipal Airport runway) and which would be outside the flood-wall, as deserving further study (see Dean 1979:39). With the project, the expected height and velocity of flood waters adjacent to the line of protection may accelerate deterioration of this structure.

The Mackey wood frame Carriage House which may date to 1854, when the Mackey House was built, has lost a great deal of its original structural integrity as a result of fire damage and subsequent structural and design changes while repairing the structure. In the investigator's opinion, the carriage/stable house no longer retains its historic merit nor warrants further National Register consideration. However, in the owners view and other local interests cite the presence and locational integrity, as constituting a significant structure.

The principal investigator Thomas R. Deans has commented:

Though not itself eligible for the Register, the carriage house is part of an important "multiple resource" that should be examined in concert with the Mackey House. The complex is historically important because of the relationship of the two structures and because the carriage house was used as a storage place for goods and articles Mackey brought from Philadelphia to Lock Haven. Further investigation of this building and its relation to the main structure should be proposed.

During the supplemental field visit, the investigator identified additional buried archeological sites along the waterfront which are associated with Lock Haven's 19th Century oriented waterfront lumber industries and which merit further study for determining their historical significance and National Register quality and nomination during the Phase II AE&D Study. These Lock Haven sites include the Pennsylvania Bald Eagle Cross Cut Canal Lock lying under East Water Street. Above the Jay Street bridge, a number of 19th Century thriving industries were located. These include the West Branch Boom Company (1849) at the foot of State Street and Water Street, the Queens Run Fire Brick Company (1888-1954) later called the North American Refractories Company at the foot of Third Street now occupied by the Immaculate Concepcion School, Bailey & Thorn Steam Saw Mill (1850's) later called Simpson & Martin Works at the foot of Second and Water Streets, Winslow & Satterlee Steam Saw Mill (1850's) later called O.D. Satterlee & Brothers Company at the foot of Mill and Water Streets, H. Q. Hawley's & Company Steam Saw Mill (1850's), at the foot of Vesper Street and the Steamboat & Packet Wharf 1850's structures are all vanished except a standing structure at the foot of Vesper and Water Streets associated with the H. W. Hawley and Company Steam Saw Mill. The construction of a flood protection wall would transect portions of these former industrial sites. Further documentation search is recommended in order to identify and for preserving this unique Lock Haven 19th Century industrial heritage and contribution to Lock Haven's cultural development. This includes collecting old engravings, photographs and engineering records to more accurately assess the extent of the stress, damage, or destruction which the project could have on these resources and for determining mitigation actions.

Lockport Locale

The 1812 John Hanna Stone Farmstead and 1830's stone addition is in a pristine condition and is of National Register quality. This structure and addition built in pre-1840's are of sufficient quality in the investigator's opinion to be nominated to the National Register of Historic Places. The stone structure should be studied in detail for mitigation considerations.

Seventeen Canal Era slab houses stand along the Lockport riverfront. These are historically important to the community's past and should receive further study.

*are a
contribution
to local
history*

The 2½-story wood frame Lock Keeper's House is in a poor state of repair. Further documentation study of the Lock House and adjacent canal guard lock is recommended. This information may be in the American Engineering Society Library or in the Smithsonian Institution. The canal guard lock is in good condition and possibly can be preserved with little additional maintenance.

Late Woodland prehistoric village sites covered a large portion of the floodplains in the area of the West Branch and Bald Eagle Creek Confluence. This includes the upper and lower Lockport, Muncytown, Dunnstown and Great Island reaches. These late prehistoric village sites are concentrated in the floodplain. Realizing that each flood erodes the floodplain surface soils differently each time and because temporary hydrologic conditions in the future may cause additional destruction, it is recommended that the several sites be selected and be considered for more intensive study in the reaches on the opposite banks to the proposed flood-wall-levee to guarantee that at least a sampling of the archeological data resources are not further stressed or irretrievably lost.

In Phase II AE&D, Intensive Surveys will be conducted by the District on both the archeological and historical resources identified in the three cultural resources reconnaissance sections. The breakdown of the recommended level of

effort suggest. Further evaluation of the Lock Haven archeological resources would cost \$34,000 for 9 weeks of field work. Preliminary explorations for archeological resources in Lockport and Great Island, if pursued would cost \$15,000 for 4 weeks of field work. A detailed evaluation of the historical resources and the development of preservation measures (Section 106 procedures) would cost \$18,200 for 4 weeks of work, for a total cultural investigation Phase II cost of \$67,200.

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Mr. Bruce Bechdel	Beech Creek, Pennsylvania President of the Clinton County Historical Society 1979
Mrs. Carol Brown	Lock Haven, Pennsylvania Past President of the Clinton County Historical Society
Mrs. Jennie Edmondson	Lock Haven, Pennsylvania L. A. Mackey House owner
Mr. Samuel Haussener	Lockport, Pennsylvania J. Hanna House owner
Mr. Gus Hickok	Office of Historic Preservation Pennsylvania Historical and Museum Commission, Harrisburg
Dr. Barry C. Kent	State Archeologist, Harrisburg
Mr. Edward Long	Lockport, Pennsylvania Local Artifact Collector
Mrs. Carol Rockey	Lock Haven, Pennsylvania Local Artifact Collector
Mr. Ira F. Smith III	Director of the William Penn Memorial Museum, Harrisburg formerly Staff Archeologist
Mr. Dean Wagner	Beech Creek, Pennsylvania Preservation Consultant
Dr. Melvyn Woodward	Lewisburg, Pennsylvania Environmental Consultant

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- 1833 Original Plan of Lock Haven
Jerry & Willard Church, October 1833 Clinton County Historical
Society (Wagner et. al. 1979:9)
- 1835 Map showing the Location of the Bald Eagle and Spring Creek
Navigation 1
M. R. Stealing, Eng. 1835
showing Lock Haven, Lockport, Dunnsburg, Lift and Guard Locks
from Dunnsburg to Bellefonte, PA. (on file at the Heisay House)
- 1854 A View of Lock Haven, Clinton County 1854
Looking east showing 2 small saw mills west of Jay Street-
before Lock Haven's expansion (Wagner et. al. 1979:31)
- 1857 Lithograph of Lock Haven, Clinton County, Pennsylvania
McKinney & Bonwill, Philadelphia, by William H. Reese in 1857
showing the Pennsylvania Canal at Lockport, Bailey & Thorn
Steam Saw Mill on W. Water St. (Photograph), Mackey House &
Carriage House, Steamboat Wharf and S. A. Gibson's Lock Haven
Marble Works on Jay Street.
- 1862 Map of Clinton County, Pennsylvania 1862
H. F. Walling, with map inserts of Lock Haven, Lockport and Dunns-
town (formerly Dunnsburg).
shows basin west of Jay St. bridge, 2 hotels for canal and
rivermen and West Branch & Susquehanna Canal Co. Lock #34.
Lockport has town lots west of Jay Street. A number of these
houses were built by the Canal Companies in the 1840's. The
Clinton County Historical Society (CCHS) now owns the Canal
Guard Lock at Dunnstown. There are two saw mills at Dunnstown.
Lock Haven exhibits Boom Island and Stone Booms in the river.
- 1868 View of Lock Haven - Photograph of painting by R. M. Tudor 1868
shows industries (Wagner et. al. 1979:87).

- 1869 Map of Lock Haven, Flemington and Lockport, Clinton County, Pennsylvania
 Ritchie & Stranahau, Philadelphia 1869
 shows the Lockport Hotels: Hotel Hanna and Lockport Hotel, West Branch Boom Company located at the foot of 6th Street and the river, Steamboat Wharf shown in the 1857 and 1862 maps is now gone.
 This 1869 map lists for Lock Haven:
 23 lumber dealers
 2 furniture m/gs
 2 foundaries
 12 hotels
 3 stove and tinware m/gs.
- 1872 Map of Lock Haven, Pennsylvania (CCHS 1979:105)
 shows 6 paper and pulp mills (?) in operation along the Bald Eagle cross cut canal.
- 1881 Lock Haven, Pennsylvania
 viewed from the Central State Normal School
 shows wood-stone booms in river & industries
 cross cut canal industries and the Hanna Hotel in Lockport
- Pre a. Engraving of Residence - L. A. Mackey House
 1860 Lock Haven, PA (Wagner et. al. 1979:200)
- Pre b. Engraving of Residence - L. A. Mackey House
 1860 Jennie Edmondson
- View of Lockport, Floyd Photo No. 107 (CCHS 1979:22)
 View of Lockport, Floyd Photo No. 3056 (CCHS 1979:23)
 View of Lockport, Floyd Photo No. 265 (CCHS 1979:191)
- 1900 Photograph of Lock Haven
 Lock Haven as it looked in or about 1900
 PA Hist. & Museum Commission files - Harrisburg
- 1933 Plan of the City of Lock Haven, Pennsylvania
 Lock Haven Chamber of Commerce brochure 1933.

1934 Map of Lock Haven - Full page fold out Lock Haven Express, PA.
Oct. 11, 1934.

1957 Lock Haven City Directory
showing North American Refractories located at foot
of alley between 3rd and 4th at Water Street.

MAP 2

Lock Haven, Pa. USGS Quadrangle 7.5 minute
series Topographic Map, 1965, photographed 1973

LEGEND

- ① John Hanna Stone House
- ② Canal Era Slab Houses
- ③ Lock House and Canal Guard Lock
- ④ Mackey Carriage-Stable House
- ⑤ Pennsylvania Cross Cut Canal Lock
- ⑥ McCormack Farmstead
- ⑦ Lock Haven River Front Industrial Reach
- ▨ Flood Plain surfaces with high potential for
archeological sites (Hatched areas)

